Twentieth Actuarial Valuation

of the Assets and Liabilities Under the Railroad Retirement Acts as of December 31, 1995

U.S. Railroad Retirement Board
Bureau of the Actuary
Chicago, Illinois

STATEMENT OF THE RAILROAD RETIREMENT BOARD

Section 15(g) of the Railroad Retirement Act of 1974 requires that the Railroad Retirement Board, at intervals not longer than three years, estimate the liabilities created by the Act and include the estimate in its annual report. Section 22 of the Railroad Retirement Act of 1974 requires that the Board submit to the President and the Congress, by July 1 of each year, a report containing a five year projection of the revenues to and payments from the Railroad Retirement Account. Section 502 of the Railroad Retirement Solvency Act of 1983, Public Law 98-76, requires that the Board submit to the Congress, by July 1 of each year, a report on the actuarial status of the railroad retirement system. The 20th valuation was prepared by the Board's Chief Actuary and meets these requirements. The Actuarial Advisory Committee reviewed the valuation as to assumptions and methods as required by Section 15(f) of the Railroad Retirement Act.

The Chief Actuary's report describes the results of three valuations, each valuation differing from the others as to the employment assumption on which it is based. An actuarial deficiency exists only under the most pessimistic employment assumption. Even under that assumption, there would be no cash flow problem until the year 2021.

Section 502 of the Solvency Act requires recommendations with respect to tax rates and whether any part of the taxes on employers should be diverted to the Railroad Unemployment Insurance Account to aid in the repayment of its debt to the Railroad Retirement Account. The Chief Actuary's report does not recommend a change in the tax rate, nor does it recommend a diversion of taxes from the Railroad Retirement Account to the Railroad Unemployment Insurance Account.

The Board Members believe that the 20th valuation presents a fair picture of the financial condition of the railroad retirement system, and we support the conclusions reached in the report.

The Railroad Retirement Board wishes to thank the members of the Actuarial Advisory Committee for their assistance in this important project.

Glen L. Bower

V. M. Speakman, Jr.

Jerome F. Kever

STATEMENT OF THE ACTUARIAL ADVISORY COMMITTEE
May 22, 1997

This statement sets forth the Committee's review of the twentieth actuarial valuation of the railroad retirement system. This valuation, performed as of December 31, 1995, was completed in the spring of 1997 by Mr. Frank J. Buzzi, Chief Actuary of the Railroad Retirement Board, and his staff. In both the planning and carrying out of the valuation, the Committee has counseled with Mr. Buzzi as to the structure, actuarial methods, actuarial assumptions, and procedures of the valuation and as to the scope and content of his report. In all, the Committee has met with the Chief Actuary on April 2, 1996, November 18, 1996, and May 22, 1997, for the purpose of reviewing and discussing the significant elements of the twentieth valuation.

The Committee believes that the actuarial assumptions are reasonable and that the valuation results present a fair picture of the financial condition of the railroad retirement system.

Section 502 of the Railroad Retirement Solvency Act requires the Board to report to Congress on the actuarial status of the railroad retirement system each year. The report must include recommendations for any desirable financing changes. As in the 1988 through 1996 Section 502 Reports, the Chief Actuary recommends no change in payroll tax rates under the railroad retirement system.

The Chief Actuary's report indicates that the actuarial condition ranges from a surplus of 3.70% of payroll to a deficit of 2.69% of payroll, depending on assumed future employment levels. This compares to a range of 3.16% of payroll surplus to 3.93% of payroll deficit in the 19th valuation.

To a large degree, the improvement in actuarial condition since the nineteenth valuation results from the enactment of the Social Security Independence and Program Improvements Act of 1994, which made permanent the transfer to the Railroad Retirement System of revenues derived from the income tax on system benefits.

The Committee acknowledges the valuable help of the Board and of the Chief Actuary and his staff in the Committee's review of this valuation.

Respectfully submitted,

Regina Van Valkenburgh, M.A.A.A., Chairperson

Peter A. Bleyler, M.A.A.A.

Maynard I. Kagen, M.A.A.A.

REPORT OF THE ACTUARY

I. INTRODUCTION

Section 15 of the Railroad Retirement Act of 1974 requires that the Railroad Retirement Board, at intervals of not more than three years, prepare actuarial valuations of the railroad retirement system.

Section 22 of the Railroad Retirement Act of 1974 requires that the Railroad Retirement Board prepare an annual report containing a five year projection of revenues to and payments from the Railroad Retirement Account and to submit the report to the President and the Congress by July 1. If the five year projection indicates that funds in the Railroad Retirement Account will be insufficient to pay full benefits, (i) representatives of railroad employees, railroad carriers and the President must submit proposals to the Congress to preserve the financial solvency of the Railroad Retirement Account, and (ii) the Railroad Retirement Board must issue regulations to reduce annuity levels during any fiscal year in which there would be insufficient funds to make full payments.

Section 502 of the Railroad Retirement Solvency Act of 1983 requires the Railroad Retirement Board to prepare an annual report on the actuarial status of the railroad retirement system and to submit the report to the Congress by July 1. The report must contain recommendations for any financing changes which might be advisable, including (1) changes in the tax rates, and (2) whether any part of the taxes on employers should be diverted to the Railroad Unemployment Insurance Account to aid in the repayment of its debt to the Railroad Retirement Account.

This report, the 20th actuarial valuation, is intended to meet these three requirements for 1997.

II. SUMMARY OF RECENT DEVELOPMENTS AND RESULTS

Recent actuarial reports have discussed in detail the importance of the level of railroad employment to the railroad retirement system's financial stability. The payroll tax on railroad employment has been the major source of income to the system since its establishment in the 1930's. It is clear that the fewer railroad workers there are, the less money the retirement account collects in payroll taxes, and the more likely the system is to require additional funds. Declines in railroad employment over a long period, coupled with inflation and subsequent benefit increases, required legislation to strengthen the system's financial condition in 1974, 1981, 1983, and 1987.

The 19th valuation (1994 actuarial report) projected that, even under the most pessimistic employment assumption, cash flow problems did not arise for over 20 years. Since the time of the 19th valuation report, employment levels have been generally favorable. Furthermore, the Social Security Independence and Program Improvements Act of 1994 (P.L. 103-296) permanently extended the transfers of income taxes on Railroad Retirement Account benefits to the Railroad Retirement Account. As a result, the cash flows projected in both the 1995 and 1996 actuarial reports have been more favorable than those in the 19th valuation. Because of this, neither of those reports recommended a change in tax rates.

The 20th valuation has been prepared under three assumptions as to the future behavior of railroad employment. These employment assumptions are similar to the employment assumptions used in the 19th valuation. Employment assumptions I and II are based on the stability of employment in passenger service (Amtrak and commuter service) as distinguished from freight service. Employment assumption III follows the structure of assumptions I and II, except that it has declines in passenger employment and steeper declines in freight employment than employment assumptions I and II. Employment assumptions I, II and III are intended to provide an optimistic, moderate and pessimistic assumption, respectively. The specific results of the projections made in this report of the railroad retirement system's financial condition are as follows:

1. Under employment assumption I, an actuarial surplus of 3.70 percent of tier 2 payroll exists as of December 31, 1995. There are no cash flow problems during the 75 year projection period.

2. Under employment assumption II, an actuarial surplus of 1.12 percent of tier 2 payroll exists as of December 31, 1995. There are no cash flow problems during the 75 year projection period.

3. Under employment assumption III, an actuarial deficiency of 2.69 percent of tier 2 payroll exists as of December 31, 1995. Cash flow problems arise in 2021 and remain through the remainder of the 75 year projection period.

The surplus or deficiency figures given above represent the tax rate changes, effective January 1, 1996, which would produce a balance of zero in the combined Railroad Retirement and Social Security Equivalent Benefit Accounts at the end of the 75-year projection period. The actuarial deficiency under employment assumption III could be eliminated by a future tax increase or reduction in benefits amounting to 2.92 percent of tier 2 payroll, effective January 1, 1998.

The actuarial surplus or deficiency figures provide only for benefits paid during the 75-year projection period, and not for benefits earned during the period and paid after the end of period. The tax increase needed to fund all benefits paid during the 75-year period and to provide a fund balance on December 31, 2070, equal to the accrued liability (calculated using the entry age normal method) is shown below.

Employment assumption	Tier 2 tax increase on January 1, 1998
I	none
II	none
III	3.93%

The conclusion is that, barring a sudden, unanticipated, large drop in railroad employment, the railroad retirement system will experience no cash flow problems during the next 20 years. The long-term stability of the system, however, is still questionable. Under the current financing structure, actual levels of railroad employment over the coming years will determine whether additional corrective action is necessary.

As mentioned earlier, this report is intended to meet the requirements of Section 502 of the 1983 Solvency Act. Section 502 requires recommendations with regard to the (1) tax rates and (2) whether any part of the taxes on employers should be diverted to the Railroad Unemployment Insurance Account to aid in the repayment of its debt to the Railroad Retirement Account.

1. This report recommends no change in the rate of tax imposed on employers and employees.

   Future financing problems occurring under employment assumption III, as discussed above, preclude recommending a decrease in tax rates at the current time. On the other hand, the absence of projected cash flow problems for over 20 years under even the most pessimistic employment assumption indicates that an immediate increase in tax rates is not required.

2. No diversion of taxes from the Railroad Retirement Account to the Railroad Unemployment Insurance Account is recommended. There are no loans currently outstanding from the Railroad Retirement Account to the Railroad Unemployment Insurance Account.

Section V of this report presents details of the valuations under the three employment assumptions.

III. REGULAR AND SUPPLEMENTAL BENEFITS AND FINANCING

The Appendix contains a detailed description of the provisions of the current law. Sections III and IV provide a more general summary of the law.

Railroad retirement benefits are paid from four accounts: the Railroad Retirement (RR) Account, the Social Security Equivalent Benefit (SSEB) Account, the Railroad Retirement Supplemental Account, and the Dual Benefits Payments Account. Because of their intertwined nature, the RR Account and the SSEB Account are discussed together in part A of this section. The Railroad Retirement Supplemental Account is discussed in part B. Dual benefits and the Dual Benefits Payments Account are discussed in a separate section, Section IV.

A. The Railroad Retirement and Social Security Equivalent Benefit Accounts

Benefits paid from the RR and SSEB Accounts consist mainly of monthly payments to retired or disabled employees, their spouses, and survivors. The various types of benefits and their eligibility requirements are described in the Appendix. The accounts also pay out relatively small amounts in lump sums to employees and their survivors in certain cases. The monthly benefits consist of two components, known as tier 1 and tier 2.

For all categories of recipients, the gross tier 1 benefit is generally equivalent to the benefit that the social security system would pay if all the employee's earnings (railroad and non-railroad) had been covered under the Social Security Act. Any benefit actually received from social security is subtracted to determine the net tier 1 benefit payable. Section IV explains the logic behind this determination. The cost-of-living increase paid to social security beneficiaries automatically carries over to the tier 1 component of railroad retirement annuities.

There are some differences between social security benefits and tier 1 benefits. The most significant are as follows:

1. An employee may not retire before age 62 under the social security system. Under the railroad retirement system, an employee may retire at age 60 with 30 years of service. If the employee retires before age 62, the tier 1 benefit will be reduced (tier 2 benefit is not reduced) by the same percentage that social security would apply to an employee retiring at age 62 (currently 20 percent). The reduced tier 1 benefit will be frozen until the employee reaches age 62, at which time it will be recomputed to reflect increases in national wage levels. Thereafter, the benefit will rise with increases in the cost of living.

   If the 30-year employee retires at age 62 or later, the tier 1 benefit will not be reduced. The spouse of a 30-year employee may also receive a benefit at age 60. The spouse's tier 1 benefit is reduced if the employee's tier 1 benefit is reduced, even if the spouse does not retire until age 62.

2. Railroad retirement pays an occupational disability benefit under tier 1 and tier 2. Social security requires total and permanent disability. The same five-month waiting period applies under both systems.

3. Widows who retire at age 60 or 61 under railroad retirement are deemed age 62 in the computation of the tier 1 benefit, resulting in a smaller age reduction than under social security.

4. From the start of the railroad retirement system through 1984, earnings up to a monthly maximum amount were taxed and credited for benefit computation purposes. Social security has always used an annual earnings limit. The 1983 Solvency Act changed railroad retirement to an annual earnings limit for 1985 and later years, but benefit computations for new beneficiaries will reflect the pre-1985 use of a monthly limit for many years into the future. All benefits awarded before 1985 reflect a monthly limit exclusively.

Tier 2 is the component of railroad retirement which is comparable to a private pension. Under the formula adopted in 1981, the employee tier 2 benefit is equal to 0.7 percent of the employee's average monthly railroad earnings for the 60 months of highest earnings, multiplied by the number of years of railroad service, less 25 percent of any vested dual benefit. The tier 2 benefit for spouses is equal to 45 percent of the employee's tier 2 benefit.

The 1981 amendments brought about a transition to a new survivor benefit formula. For any survivor awarded a benefit after September 30, 1986, the survivor's tier 2 benefit is a specified percentage of the employee's tier 2 benefit. The Appendix lists the percentages.

Tier 2 benefits for employees, spouses and survivors are subject to cost-of-living increases equal to 32.5 percent of the percentage increase which is used in computing social security increases (and tier 1 increases). The increase is paid at the same time as the tier 1 cost-of-living increase.

The portion of tier 1 benefits which is considered equivalent to social security benefits is subject to Federal income tax under the rules that apply to social security benefits. Tier 2 benefits, the portion of tier 1 benefits in excess of social security benefits, supplemental annuity benefits, and vested dual benefits are subject to Federal income tax under the rules that apply to private pensions.

Benefits paid from the RR and SSEB Accounts are financed by the following sources of income:

1. Payroll tax. Employees and employers pay a tax at the social security rate on earnings in a year up to the social security, or tier 1, earnings limit (the hospital insurance portion of this rate is not subject to an earnings limit). This tax is called the tier 1 tax. In addition, under the 1987 Budget Reconciliation Act, employers pay a tier 2 tax equal to 16.10 percent of the employee's earnings up to the tier 2 earnings limit, and employees pay a tier 2 tax of 4.90 percent. The tier 2 earnings limit is what the social security limit would be if the 1977 social security amendments had not been enacted. The 1997 earnings limits are $65,400 and $48,600 for tier 1 and tier 2, respectively.

2. Income tax. The tax on tier 1 benefits up to the social security level is credited to the SSEB Account and then to social security through the financial interchange. Revenue derived from taxing RR Account benefits (tier 2 and the excess of tier 1 over the social security level) is transferred to the RR Account.

3. Work-hour tax. Part of the tax collected for the Railroad Retirement Supplemental Account, which is computed in terms of cents per hour worked, is transferred to the RR Account. This will be discussed in part B, where supplemental annuities and their financing are described.

4. Investment income.

5. The financial interchange with the social security system. This extremely important arrangement, which will be discussed in detail in Section IV, has resulted in the large annual lump sum transfers of money from social security to railroad retirement shown in Table 12.

6. Advances from general revenues related to certain features of the financial interchange. Financial interchange transfers are made in a lump sum for a whole fiscal year in the June following the end of that fiscal year. For example, the transfer reflecting transactions which occurred from October 1994 through September 1995 (fiscal year 1995) took place in June 1996. At any time, therefore, there are between 9 and 21 months' worth of financial interchange transfers which are, in a sense, owed to the railroad retirement system. Railroad retirement receives interest on this money, so this practice does no long-term harm to the financial condition of the railroad retirement system. The lag in the transfers, however, could cause short-term cash flow problems.

> In order to avoid the cash flow problems caused by this lag, the 1983 Solvency Act provided for monthly loans to railroad retirement from U.S. Treasury general funds. Each loan is equal to the transfer the Railroad Retirement Board estimates railroad retirement would have received in the preceding month, with interest, if the financial interchange with social security were on an up-to-date basis. Railroad retirement must repay these loans when it receives the transfer from social security against which the money was advanced.

The 1983 Solvency Act created the SSEB Account, effective October 1, 1984. Before that date, all tier 1 benefits, tier 2 benefits, lump sums and administrative expenses had been paid from the RR Account, and all the income described above had been credited to the RR Account. Since then, the SSEB Account has paid the social security level of benefits and the administrative expenses allocable to that level of benefits. The tier 1 portion of the payroll tax, the income taxes on the social security level of benefits, the income from the financial interchange, and the advances from general revenues are credited to the SSEB Account. Repayment of the advances is made from the SSEB Account.

If the balance in the SSEB Account is insufficient to pay benefits, the RR Account must lend the SSEB Account the amount required to enable it to meet its obligations. The SSEB Account is to pay any debt built up in this manner by transferring to the RR Account the amounts it receives through the financial interchange and the general revenue advances, up to the amount of the outstanding loan.

The SSEB Account must transfer money to the RR Account if (1) the balance in the RR Account is insufficient to enable it to pay benefits, and (2) the transfer will not jeopardize the payment of SSEB benefits. These transfers are not required to be repaid.

B. The Railroad Retirement Supplemental Account

A railroad retiree may receive a supplemental annuity in addition to his regular annuity if (1) he has a "current connection" with the railroad industry at the time of retirement, and (2) he has attained age 65 with 25 years of railroad service, or attained age 60 with 30 years of railroad service. A current connection is generally defined as at least 12 months of railroad service in the 30 months preceding retirement.

The 1981 amendments added the requirement that an employee must have worked in the railroad industry before October 1, 1981 to receive a supplemental annuity. This provision will result in phasing out the supplemental annuity over a long period. The last supplemental annuity check will probably not be paid until after 2050.

The monthly supplemental annuity benefit is $23, plus $4 for each year of service in excess of 25, with a maximum benefit of $43. No cost-of-living increases are applied. Spouses and survivors do not receive a supplemental annuity.

If the recipient of a supplemental annuity receives a private pension from his railroad employer, the supplemental annuity is reduced by the portion of the private pension which is attributable to the employer's contributions. This reduction is not made if the private pension is reduced for receipt of the supplemental annuity. The Railroad Retirement Board returns the resulting savings in supplemental annuities to the employer in the form of tax credits.

Employers bear the full cost of supplemental annuities. Financing is on a pay-as-you-go basis. The tax rate is promulgated by the Railroad Retirement Board every quarter and is expressed in terms of cents per hour worked. For the first half of 1997, the rate is 35 cents per hour. The Railroad Retirement Board attempts to set a rate which will hold for an entire calendar year; but a decision is made every quarter, and a change during the year is possible. Supplemental annuities awarded before 1975 were equal to $45 per month, plus $5 per month for each year of service in excess of 25, with a maximum benefit of $70. The work-hour tax is calculated to be enough to pay benefits on the basis of this formula. Since awards after 1974 are based on the $23-$43 formula described earlier, the tax income is more than sufficient to pay the benefits. The excess is transferred from the Railroad Retirement Supplemental Account to the RR Account to finance the increase in costs resulting from the elimination (in the 1974 Act) of the reduction in the regular annuity for receipt of a supplemental annuity.

Employers maintaining negotiated pension plans are exempt from the work-hour tax with respect to employees covered by the negotiated plans. The employees, however, are entitled to supplemental annuities under the same conditions as all other employees. Employers pay for these annuities on an actual cost basis.

IV. DUAL BENEFITS, THEIR FINANCING, AND THE FINANCIAL INTERCHANGE

In the early 1950's, an arrangement known as the financial interchange was established between the railroad retirement and social security systems. The purpose of the financial interchange is to place the social security trust funds in the same financial position they would have been if railroad employment had always been covered under social security. If railroad employment had been covered under social security, social security would have collected taxes on railroad employment, and it would have paid benefits based on railroad employment. Under the financial interchange, the railroad retirement system gives the social security system the taxes social security would have collected, and the social security system gives the railroad retirement system the additional benefits social security would have paid to railroad workers and their families over what it actually pays them.

The word "additional" in the preceding sentence is important, because it is possible for a railroad employee to be covered under both railroad retirement and social security. The social security coverage may be based on earnings from moonlighting while in a railroad job or from coverage under the two systems at different times. Fulfilling the purpose of the financial interchange requires deducting from social security's fund only the difference between what social security would have paid had it covered railroad employment, and what it actually pays the person based on his non-railroad employment. Under the financial interchange, therefore, social security subtracts an employee's social security benefit from the amount it would otherwise give to the railroad retirement system.

This arrangement gave rise to problems which became acute in the early 1970's. The problems arose from the weighting in the social security formula in favor of low-earning, short-service workers. A railroad employee's non-railroad earnings usually added little to the benefit social security would have paid on combined railroad and non-railroad earnings (called gross tier 1 today). However, the employee might qualify for the minimum social security benefit, receiving much more from social security than his non-railroad earnings added to his gross tier 1 benefit.

The following example of two hypothetical employees may clarify the problem. The size of the benefits is appropriate to the early 1970's. The employees are assumed to have identical dates of birth, dates of retirement, and histories of railroad earnings. One employee, however, is assumed to have had just enough covered employment under social security to qualify for a social security benefit. (The difference in railroad retirement benefits arises from minor reductions in the 1937 Act formula for receipt of a social security benefit.)

	Eligible for social security	Not eligible for social security
A. Railroad retirement benefit	$380	$400
B. Social security benefit	100	-
C. Total benefit, A + B	480	400
D. Social security benefit on combined earnings (gross tier 1)	240	220
E. Financial interchange transfer from social security to railroad retirement, D - B	140	220
F. Amount to be financed by excess of railroad retirement taxes over social security taxes, A - E	240	180

Two conclusions are apparent. First, the employee with benefits under both systems received an advantage over the career railroad worker, which many considered unfair. In the example, the employee who is eligible for social security collects $80 more than the employee who is not eligible (the difference in line C); while, under a completely integrated system, the social security earnings would have added only $20 (the difference in line D). Second, because social security subtracted the social security benefit in calculating the financial interchange transfer, railroad retirement paid most of the cost of these benefits. In the example, this is represented by the $60 difference in line F.

This situation was a major cause of the poor financial condition of the railroad retirement system in the early 1970's. In order to improve the system's financial condition, the Railroad Retirement Act of 1974 provided that the tier 1 component of the railroad retirement annuity be reduced by any social security benefit. This essentially integrated the two systems and eliminated the advantage of qualifying for benefits under both systems.

However, it was generally considered unfair to eliminate this advantage entirely for those already retired or close to retirement when the 1974 Act became effective. The 1974 Act, therefore, provided for a restoration of social security benefits which were considered vested at the end of 1974. The restored amount is known as the "vested dual benefit". This benefit was available to qualifying spouses and survivors as well as to qualifying employees.

For employees retiring in 1975 or later, the vested dual benefit was to be equal to

(1) a social security benefit based on social security earnings, plus

(2) a social security benefit based on railroad earnings, minus

(3) a social security benefit based on combined railroad and social security earnings.

Social security or railroad earnings after 1974 were not to be included in this calculation. The "social security benefit" referred to in (1), (2) and (3) is the one which would have been calculated at the end of 1974. The resulting amount was to be increased by all the automatic social security cost-of-living adjustments between 1974 and the date the employee retired.

For spouses and survivors, the formulas were different and more complicated than those for employees.

The 1981 amendments made significant changes regarding vested dual benefits. Spouses and survivors were not to be awarded vested dual benefits after August 13, 1981, though they would continue to receive these benefits if they were awarded before that date. Also, vested dual benefits awarded to employees would take into account cost-of-living increases only through 1981, rather than through the date of retirement.

Since October 1981, vested dual benefits have been paid from a segregated Dual Benefits Payments Account, and appropriations have been made to that account. This means that, starting in fiscal year 1982, each annual appropriation is to be sufficient to pay the benefits for that year. If the appropriation for a fiscal year is less than required for full funding, the Railroad Retirement Board must reduce benefits to a level which the amount appropriated will cover.

The appropriation for vested dual benefits in fiscal year 1982 was less than required for full funding, resulting in a cutback in benefits during that year. Full funding was restored for the last two months of fiscal year 1982. The appropriation was less than required in fiscal year 1986, resulting in a cutback during April-September of that year. The appropriation was again less than required in fiscal year 1988, which resulted in a cutback during April-September. Benefits were cut back in January 1996 due to a lapse in government funding and then restored later that same month. For years other than those mentioned, full benefits have been paid.

V. ASSUMPTIONS, METHODOLOGY, AND VALUATION RESULTS

A. Assumptions and Methodology

Average railroad employment is assumed to be 256,000 in 1996 under each of the three employment assumptions. This was the actual average for the year and was within the range projected for 1996 under the employment assumptions contained in the 1996 actuarial report.

Employment assumptions I and II, based on a model developed by the Association of American Railroads, assume that (1) passenger employment will remain at the level of 45,000, and (2) the employment base, excluding passenger employment, will decline at a constant annual rate (2.0 percent for assumption I and 3.5 percent for assumption II) for 25 years, at a reducing rate over the next 25 years, and remain level thereafter.

Employment assumption III differs from employment assumptions I and II by assuming that (1) passenger employment will decline by 500 per year until a level of 30,000 is reached and then remain level, and (2) the employment base, excluding passenger employment, will decline at a constant annual rate of 5.0 percent for 25 years, at a reducing rate over the next 25 years, and remain level thereafter.

Because inflation has been fairly stable at relatively low levels in recent years, only one set of earnings and price inflation assumptions was used in this valuation. The ultimate earnings increase, cost of living increase and interest rate assumptions are the same as those used in the previous valuation. Table 1 shows the employment, inflation and interest rate assumptions used in the 20th valuation. A comparison of historical and projected employment is illustrated in Figure 1.

Only one combination of non-economic assumptions (for example, rates of mortality, disability, retirement, and withdrawal) was used in this valuation. These assumptions, some of which were changed from the previous valuation to reflect recent experience, are discussed in the Technical Supplement to this report.

Projections were made for the various components of income and outgo under each employment assumption for the 75 calendar years 1996-2070. The projections of these components were combined and the investment income calculated to produce the projected balances in the RR and SSEB Accounts separately for each year. The results are summarized in Table 3. Present values of the various components of RR Account income and outgo were calculated by discounting amounts in each projection year to December 31, 1995, using the interest rate series shown in Table 1. The present values were combined to calculate the RR Account actuarial surplus or deficiency. The derivation of the surplus or deficiency appears in Table 7 and is illustrated in Figure 2.

B. Valuation Results

This section sets forth the results of the valuation in the form of a discussion of the tables in which the results appear. Because it is desirable for the discussion of a table to be reasonably self-contained, there is some repetition between tables and between this section and preceding sections of this report.

Table 3. Progress of the Railroad Retirement (RR) and Social Security Equivalent Benefit (SSEB) Accounts. Projections were made for the various components of income and outgo under each employment assumption for the 75 calendar years 1996-2070. The projections of these components were combined and the investment income calculated to produce the projected balances in the RR Account and the SSEB Account at the end of each projection year. The results are summarized in Table 3.

Table 3 consists of three tables, one for each of employment assumptions I, II, and III. The tables show, for each account, (1) the various elements of income and outgo, (2) the account balance on December 31, and (3) the interplay between the two accounts when the SSEB Account must transfer money to the RR Account. The tables also show combined balances for the two accounts.

Table 3 indicates that no cash-flow problems arise under employment assumptions I and II (Tables 3-I and 3-II). Under employment assumption II, the RR Account balance builds to a maximum of $17,479 million in 2008, and then it begins to decline (Table 3-II). The RR Account balance would become negative in 2026 if no money were allowed to be transferred from the SSEB Account. By the end of 2025, the SSEB Account has built up a balance of $11,798 million, mainly for the reasons given in the comments to Table 7. The SSEB Account transfers enough money to the RR Account from 2026 until 2039 to enable the RR Account to meet its obligations. In 2040 and later, the tax income in the Railroad Retirement Account is sufficient to cover benefit and administrative costs, eliminating the need for further transfers from the SSEB account. Under employment assumption III, the SSEB Account must first transfer money to the RR Account in 2018 (Table 3-III). The SSEB Account balance is depleted in 2021, and the combined accounts have a negative balance thereafter. Negative after-transfer balances indicate the amount that the RR Account would owe, including interest, if it could pay unreduced benefits by borrowing from some unknown source. The SSEB Account is assumed to transfer to the RR Account any excess of income over outgo in 2022 and later; this does not add to the RR Account's debt.

Table 4. Present value of benefits in millions of dollars. This table shows, for each employment assumption, the present value of tier 2 benefits and the portion of tier 1 benefits which exceeds the social security level of benefits. The portion of tier 1 benefits in excess of the social security level is referred to as "tier 1 liability". The most important components of this liability were described in Section III. The present values are shown separately by type of beneficiary (employee, spouse, aged and disabled widow(er), other survivor) and by employee status on the valuation date (retired, retired and deceased, active, inactive, future entrants).

Table 5. Present value of benefits as a percentage of the present value of tier 2 payroll. The format for this table is the same as for Table 4. Each number in Table 5 was obtained by dividing the corresponding number in Table 4 by the appropriate present value of one percent of tier 2 payroll. The payroll figures are shown in Table 7.

Table 6. Balance of the Railroad Retirement and Social Security Equivalent Benefit Accounts as of December 31, 1995. This table derives the balance in the two accounts on an accrual basis as of December 31, 1995. The accrual adjustment is the amount due and unpaid on that date. The accrual basis is appropriate for present value calculations.

The item captioned "Future income from market-based specials" is the present value, as of December 31, 1995, of the income stream flowing from the securities shown in Table 2 and any securities sold during calendar year 1996. The income stream from these securities consists of coupons and face amounts available at maturity. The purchase price of market-based specials purchased in 1996 was regarded as a negative income item in 1996 in the calculation of this present value. It is assumed that market-based specials are held to maturity, at which time the proceeds are invested in par value specials.

The amount captioned "Financial interchange - OASDI" is the transfer from social security to the SSEB Account of the excess of the OASDI (Old-Age, Survivors, and Disability Insurance) benefit payments and related administrative expenses due the railroad retirement system over the OASDI taxes due social security. The transfer is made in June for the fiscal year ending the preceding September 30. The $4,366 million in the table is the amount transferred in June 1996 for the fiscal year ending September 30, 1995, plus that part of the transfer to be made in June 1997 that relates to experience for October-December 1995.

The amount captioned "Financial interchange - HI" is the transfer from the SSEB Account to social security of the hospital insurance taxes collected by the Railroad Retirement Board. The period covered is the same as for the OASDI accrual adjustment.

The item "Advances against the financial interchange" is the amount, including interest to December 31, 1995, that the Treasury has loaned to the SSEB Account in anticipation of the SSEB Account's receipt of the financial interchange transfer from social security. As explained in Section III, the SSEB Account will repay the advances made in a fiscal year when it receives the financial interchange transfer for that year; in the meantime, this item is a liability.

The balance of the debt owed by the Dual Benefits Payments Account to the RR Account was fully repaid in January 1996 and has been included in the RR Account balance as an asset.

Table 7. Actuarial surplus or (deficiency) for Railroad Retirement Account under employment assumptions I, II, and III. The top half of Table 7 expresses the asset and liability components of the actuarial balance as present values in dollars. The bottom half expresses these components as a percentage of tier 2 payroll. The actuarial surplus or deficiency was calculated for the RR Account, but not for the SSEB Account, for the following reason.

The SSEB Account pays the social security level of benefits and administrative expenses allocable to those benefits, and it receives as income the social security level of taxes. If there were no other source of income or outgo during the course of a year, a surplus or deficiency would build up, depending on whether taxes exceeded or were less than benefits. However, the SSEB Account also receives or pays any financial interchange transfers. The financial interchange transfer, subject to qualifications described in the next paragraph, should be enough to offset any surplus or deficit for the year. Furthermore, this would be the case even if the social security level of benefits or taxes are raised or lowered. The SSEB Account can thus be regarded as automatically funded, the financial interchange being the mechanism for correcting any surplus or deficiency. Therefore, the concept of actuarial balance is not meaningful when applied to the SSEB Account.

The qualification mentioned above arises because, in a relatively small number of cases, the railroad retirement system does not pay benefits when social security would pay benefits. In these cases, mainly dependent children of retired railroad employees, the SSEB Account collects an amount through the financial interchange but does not pay a corresponding benefit. This imbalance between outgo and income is relatively small in any particular year, but substantial balances build up in the SSEB Account after a number of years.

A second factor contributing to the balance in the SSEB Account is the method of accounting for SSEB Account benefits. Benefits charged to the SSEB Account should be based on financial interchange calculations. Since the financial interchange calculations are not prepared on a current basis, the benefits initially charged are based upon estimates. These estimates had not been adjusted once the actual financial interchange benefits for a given year were calculated. On May 1, 1997, $843 million was transferred from the SSEB Account to the RR Account to correct the cumulative difference between actual and estimated benefits along with interest thereon. Annual adjustments of estimated to actual benefits are planned after each future financial interchange calculation is completed. These adjustments do not change the combined RR and SSEB Account balances.

As described in Section III, the SSEB Account must transfer money to the RR Account if (1) the balance in the RR Account is insufficient to enable it to pay benefits, and (2) the transfer will not jeopardize the payment of SSEB Account benefits. There is no requirement that these transfers be repaid. The value of these transfers, or amounts available for transfer, is shown as an asset in line 5 of Table 7.

As explained in part B of Section III, the work-hour tax levied on employers to finance the supplemental annuity program is calculated to be enough to pay benefits on a formula which provides $45 per month, plus $5 per month for each year of service in excess of 25, with a maximum benefit of $70. Supplemental annuities awarded after 1974 are based on a formula which provides $23 per month, plus $4 per month for each year of service in excess of 25, with a maximum benefit of $43. The excess tax is transferred from the Railroad Retirement Supplemental Account to the RR Account to finance the increase in costs resulting from the elimination (in the 1974 Act) of the reduction in the regular annuity for receipt of a supplemental annuity. The present value of these transfers is an asset, shown in line 4 of Table 7 as "Transfers from supplemental account."

Revenue derived from taxing RR Account benefits (tier 2 and the excess of tier 1 over the social security level) is transferred to the RR Account. The present value of these transfers is shown as an asset on line 3 of Table 7.

The cost of the system to the railroad industry may be considered as the excess of line 2, "Retirement taxes", over line 10, "Actuarial surplus or (deficiency)". Table 7 shows that the cost of the system is much more stable when expressed in dollars than when expressed as a percentage of payroll. For example, the cost of the system under employment assumption III is $45,743 million, or 23.69 percent of payroll; whereas the cost under employment assumption I is $50,873 million, or 17.30 percent of payroll. Using employment assumption III as the base, the percentage cost variation in dollars between the two valuations is 11.2 percent. As a percentage of payroll, the percentage cost variation is 27.0 percent.

<u>Table 8</u>. <u>Minimum contribution required under ERISA</u>. The railroad retirement system is specifically exempt from the minimum funding provisions of the Employee Retirement Income Security Act (ERISA). In the past, there has been some interest in what the contribution requirement of the system would be if this were not the case. The following discussion is limited to the regular minimum funding standard (ERISA Section 302(b)) for multiemployer plans.

The railroad retirement system is currently being funded on a modified "pay-as-you-go" basis. For the most part, the funding goal is to receive enough income to the system each year to cover benefits and expenses for the year. In terms of the participants in the system, payroll taxes collected each year from rail employers and employees are used to pay benefits to rail retirees, their spouses and survivors. In contrast, ERISA essentially requires that pension plans be "advance-funded". Under this arrangement, the goal is to receive enough income to the system each year over the employees' working lifetimes to fully fund their retirement benefits.

ERISA recognizes that when a private pension plan is initiated, it will usually have an "accrued liability". This liability represents the value placed on future benefits and expenses of the plan that is attributable to employee service preceding the date of the plan (often referred to as "past service"). As such, the liability might be measured by the amount that would have been accumulated if contributions to fund each employee's benefits had been made from the time employment began. Since a new plan would have no funds at the time it is initiated, the accrued liability is also the unfunded accrued liability. The unfunded accrued liability is specifically identified by ERISA, because ERISA has separate funding rules for benefits based on past and future service.

In the case of an existing pension plan which becomes subject to ERISA funding standards, as for a new plan, the accrued liability must be determined. This determination is made based on employee service preceding the date the plan becomes subject to ERISA standards, but taking into account projected future levels of employee pay. The unfunded accrued liability for an existing plan is the excess of the accrued liability over the funds on hand.

Table 8 illustrates what the minimum funding requirements would be for the railroad retirement system as of December 31, 1995, using the entry age normal actuarial funding method, if it became subject to ERISA on that date. The unfunded accrued liability of $38,270 million shown in Table 8 may be considered to be the amount needed, in excess of funds on hand and tier 2 payroll taxes at a 7.85 percent rate, to fund RR Account benefits and expenses for former and present employees. The 7.85 percent rate (normal cost rate) is the average rate of tier 2 payroll that would fund each employee's benefits and expenses over the employee's working lifetime.

Under ERISA requirements, the minimum annual contribution to be made would be tier 2 payroll taxes at the rate of 7.85 percent, plus the level annual amount which would amortize the unfunded accrued liability of $38,270 million in 30 years. The level amount is shown as $2,722 million in line 8 of the table. Line 9 of the table expresses the minimum required contribution for 1996 ($2,722 million plus the normal cost) as 32.62 percent of 1996 tier 2 payroll. Since the amortization payment is a level dollar amount, and since the taxable payroll would change from year to year, the required contribution expressed as a percentage of payroll would vary during the amortization period. (Line 10 of the table shows the level percentage of tier 2 payroll that would be required to fund the unfunded accrued liability and meet a 7.85 percent payroll tax over the 30 year amortization period.) Under the ERISA requirements, the minimum annual contribution after 30 years, if all assumptions were realized, would be the 7.85 percent of payroll normal cost.

In summary, the effect of ERISA would be to accelerate funding for the railroad retirement system. Instead of the level 21 percent tax rate currently being paid, ERISA would require a contribution averaging 27.56 to 33.49 percent of payroll for 30 years and 7.85 percent thereafter.

The increase in normal cost rate to 7.85 percent from 6.46 percent in the 19th valuation results from changes in demographics and assumptions. The magnitude of the increase in normal cost may be attributed primarily to lower select period withdrawal rates in the 20th valuation which reflect recent withdrawal experience. These rates were last changed in the 17th valuation. A decrease in withdrawal rates for a cohort of new entrants increases the normal cost, due to the (i) increase in the number that will become vested, (ii) increase in the number working until retirement, and (iii) increase in total service upon which benefit payments will be based.

Table 9. Vested dual benefit amounts and average number of beneficiaries. This table shows a projection of vested dual benefit payments for every fiscal year from 1997 through 2020 and for fiscal years 2025 and 2030. After 2030, the amounts become insignificant. The amounts shown assume that the benefits are fully funded. Fiscal years are shown because vested dual benefit appropriations are made on a fiscal year basis. The table also indicates the average number of vested dual beneficiaries in each fiscal year. The table applies to all the employment assumptions discussed in this report.

The revenue derived from taxing pre-October 1988 vested dual benefits was transferred to the RR Account. The revenue derived from taxing vested dual benefits in fiscal years 1989 and later is transferred to the Dual Benefits Payments Account, and it reduces the amount of the appropriation by the same amount. Therefore, the amount available for the payment of vested dual benefits is unaffected by income tax revenues derived from these benefits.

The 1981 amendments removed much of the uncertainty from projections of future vested dual benefit payments. The volatility caused by inflation is gone, since future awards take into account cost-of-living increases from 1975 through 1981, rather than through the date of retirement. Also, awards of these benefits to spouses and widows ceased after August 13, 1981. Uncertainties which remain in projecting future vested dual benefit payments are when employees will retire, what their benefits will be, and when beneficiaries will die.

The projections of vested dual benefit payments by the Railroad Retirement Board are the basis for the agency's requests for appropriated amounts. Generally, a margin of about 2 percent is added to projected amounts to determine the appropriated amounts requested. This margin is needed because of the uncertainties in making projections and to ensure that adequate funds are available for the full payment of vested dual benefits. Appropriated amounts remaining in a fiscal year after all benefit payments have been made are returned to the Treasury.

Table 10. Progress of the Railroad Retirement Supplemental Account. This table shows, for each employment assumption used in this report, the tax rates required to support the supplemental annuity program through 2020. The tax income must be enough to cover the benefits, administrative expenses, transfers to the RR Account, and repayment of the outstanding loan from the RR Account to the Railroad Retirement Supplemental (RRS) Account. The nature of the transfers was described in part B of Section III. The outstanding loan was made in February 1996 to provide for refunds of overpayments of supplemental taxes by railroad carriers. The loan balance was $45 million on March 31, 1997.

Table 11. Average number of railroad retirement annuitants and number of annuitants per full time employee. The left half of Table 11 shows the average number of annuitants under each employment assumption, and the right half shows the average number per full time employee. Under employment assumption I, the average number of annuitants per full time employee decreases initially, then increases gradually to 2.63 in 2018, and declines thereafter. A similar pattern is followed under employment assumption II, with a maximum of 3.37 annuitants per employee reached in 2020 and 2021. Under employment assumption III, the average number of annuitants per full time employee increases steadily to 4.93 in 2025, and declines thereafter.

VI. STATEMENT OF ACTUARIAL OPINION

It is my opinion that (1) the techniques and methodology used herein to evaluate the financial and actuarial status of the Railroad Retirement System are generally accepted within the actuarial profession; and (2) the assumptions used and the resulting actuarial estimates are, in the aggregate, reasonable for the purpose of evaluating the financial and actuarial status of the trust funds, taking into consideration the experience and expectations of the program.

Frank J. Buzzi,
Fellow of the Society of Actuaries,
Member of the American Academy of Actuaries,
Enrolled Actuary #96-4940,
Chief Actuary, Railroad Retirement Board

Table 1. Employment, inflation and interest assumptions

Calendar year	Average employment (Thousands) I	II	III	Earnings increase (Percentage increase over previous year)	Cost-of living increase (Percentage increase over previous year)	Interest rate
1996	256	256	256	4.0%	2.6%	6.2%
1997	252	249	245	4.0	2.9	6.5
1998	248	241	234	4.0	2.9	6.0
1999	244	235	224	4.0	3.2	6.0
2000	240	228	215	4.0	3.5	6.0
2001	236	222	206	4.0	3.5	6.0
2002	232	215	197	4.0	3.5	6.0
2003	228	209	189	4.0	3.5	6.0
2004	225	204	181	4.0	3.5	6.0
2005	221	198	173	4.0	3.5	6.0
2006	217	193	166	4.0	3.5	6.0
2007	214	188	160	4.0	3.5	6.0
2008	211	183	153	4.0	3.5	6.0
2009	207	178	147	4.0	3.5	6.0
2010	204	173	141	4.0	3.5	6.0
2011	201	169	135	4.0	3.5	6.0
2012	198	164	130	4.0	3.5	6.0
2013	195	160	125	4.0	3.5	6.0
2014	192	156	120	4.0	3.5	6.0
2015	189	152	115	4.0	3.5	6.0
2016	186	148	111	4.0	3.5	6.0
2017	183	145	106	4.0	3.5	6.0
2018	180	141	102	4.0	3.5	6.0
2019	178	138	98	4.0	3.5	6.0
2020	175	135	95	4.0	3.5	6.0
2021	172	132	91	4.0	3.5	6.0
2022	170	129	88	4.0	3.5	6.0
2023	168	126	85	4.0	3.5	6.0
2024	165	123	82	4.0	3.5	6.0
2025	163	121	79	4.0	3.5	6.0
2026	162	119	77	4.0	3.5	6.0
2027	160	117	75	4.0	3.5	6.0
2028	158	115	73	4.0	3.5	6.0
2029	157	114	72	4.0	3.5	6.0
2030	155	112	71	4.0	3.5	6.0
2031	154	111	69	4.0	3.5	6.0
2032	153	109	68	4.0	3.5	6.0
2033	151	108	67	4.0	3.5	6.0
2034	150	107	66	4.0	3.5	6.0
2035	150	106	66	4.0	3.5	6.0
2036	149	105	65	4.0	3.5	6.0
2037	148	105	64	4.0	3.5	6.0
2038	147	104	64	4.0	3.5	6.0
2039	147	103	63	4.0	3.5	6.0
2040	146	103	63	4.0	3.5	6.0
2041	146	102	62	4.0	3.5	6.0
2042	145	102	62	4.0	3.5	6.0
2043	145	102	62	4.0	3.5	6.0
2044	145	102	62	4.0	3.5	6.0
2045	145	102	62	4.0	3.5	6.0
2046	145	102	62	4.0	3.5	6.0
2047	145	102	62	4.0	3.5	6.0
2048	145	102	62	4.0	3.5	6.0
2049	145	102	62	4.0	3.5	6.0
2050	145	102	62	4.0	3.5	6.0
2051	145	102	62	4.0	3.5	6.0
2052	145	102	62	4.0	3.5	6.0
2053	145	102	62	4.0	3.5	6.0
2054	145	102	62	4.0	3.5	6.0
2055	145	102	62	4.0	3.5	6.0
2056	145	102	62	4.0	3.5	6.0
2057	145	102	62	4.0	3.5	6.0
2058	145	102	62	4.0	3.5	6.0
2059	145	102	62	4.0	3.5	6.0
2060	145	102	62	4.0	3.5	6.0
2061	145	102	62	4.0	3.5	6.0
2062	145	102	62	4.0	3.5	6.0
2063	145	102	62	4.0	3.5	6.0
2064	145	102	62	4.0	3.5	6.0
2065	145	102	62	4.0	3.5	6.0
2066	145	102	62	4.0	3.5	6.0
2067	145	102	62	4.0	3.5	6.0
2068	145	102	62	4.0	3.5	6.0
2069	145	102	62	4.0	3.5	6.0
2070	145	102	62	4.0	3.5	6.0

Figure 1. Average Railroad Employment, 1937-2070
Historical and Projected

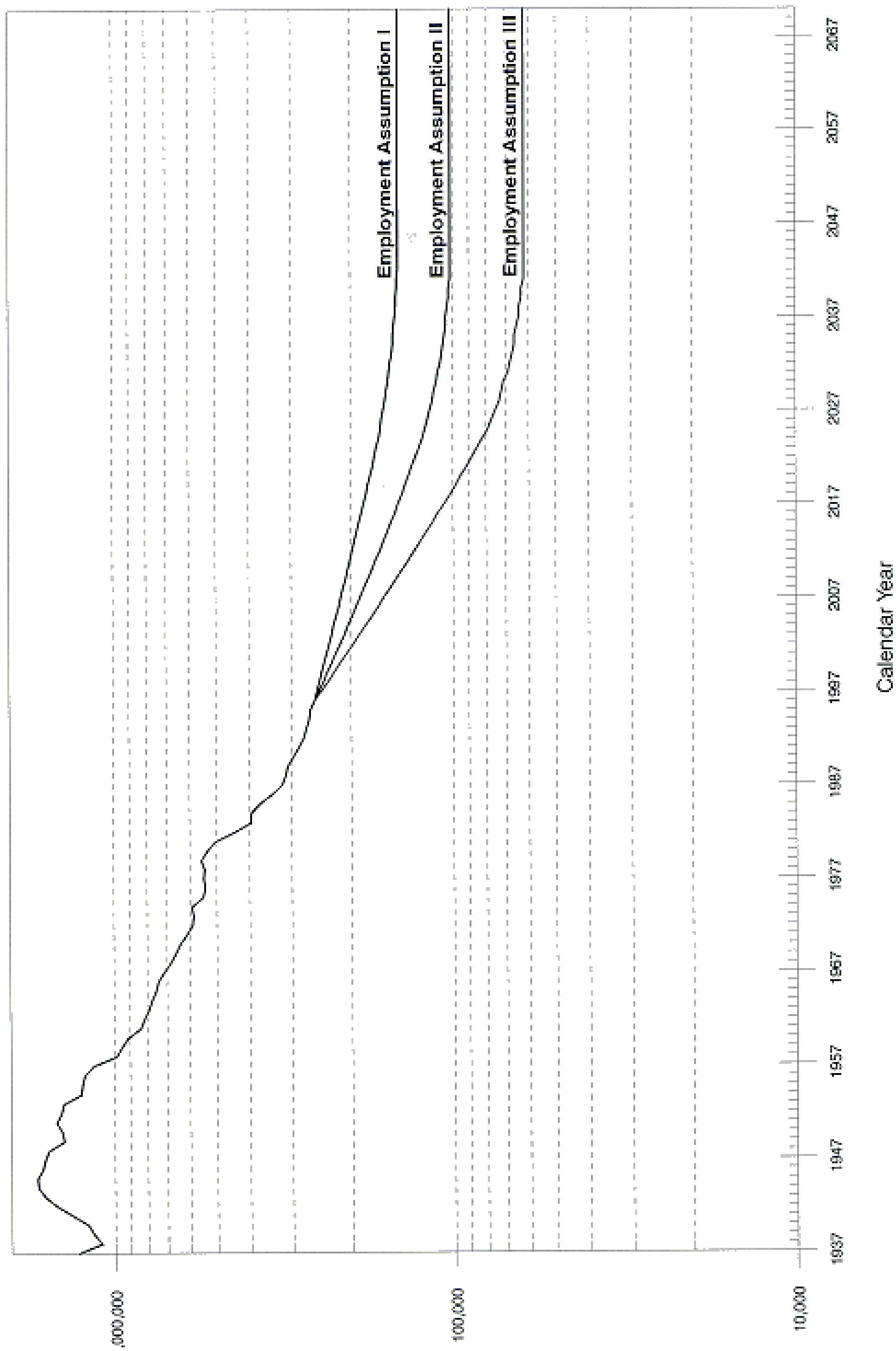


Table 2. Market-Based Holdings of Railroad Retirement Account as of December 31, 1996

Date of Purchase	Date of Maturity	Face Amount	Coupon Rate	Investment Yield
17-Aug-90	15-Nov-2004	$100,000,000	11.625%	9.07%
28-Aug-90	15-Nov-2004	100,000,000	11.625	9.16
10-Oct-90	15-Aug-2005	100,000,000	10.750	9.10
22-Feb-94	15-Aug-2015	100,000,000	10.625	6.74
11-Mar-94	15-Nov-2015	150,000,000	9.875	7.09
30-Mar-94	15-Nov-2015	80,000,000	9.875	7.23
06-Apr-94	15-Nov-2015	160,000,000	9.875	7.43
19-Apr-94	15-Nov-2015	40,000,000	9.875	7.56
09-May-94	15-Nov-2015	170,000,000	9.875	7.73
28-Jun-94	15-Aug-2015	75,000,000	10.625	7.67
26-Jul-94	15-Aug-2004	100,000,000	13.750	7.32
23-Aug-94	15-Aug-2015	275,000,000	10.625	7.71
27-Sep-94	15-Aug-2015	110,000,000	10.625	7.97
25-Oct-94	15-Aug-2015	65,000,000	10.625	8.19
25-Oct-94	15-Aug-2004	255,000,000	13.750	7.89
25-Apr-95	15-May-2012	210,000,000	0.000	7.64
23-May-95	15-Nov-2009	100,000,000	0.000	7.14
27-Jun-95	15-Feb-2016	275,000,000	9.250	6.60
25-Jul-95	15-Nov-2009	400,000,000	0.000	7.10
22-Aug-95	15-Nov-2009	100,000,000	0.000	7.15
05-Sep-95	15-Nov-2009	130,000,000	0.000	6.81
26-Sep-95	15-Nov-2009	425,000,000	0.000	6.81
24-Oct-95	15-Feb-2016	435,000,000	9.250	6.44
28-Nov-95	15-Nov-2009	420,000,000	0.000	6.46
23-Jan-96	15-Nov-2009	50,000,000	0.000	6.20
27-Feb-96	15-Aug-2014	100,000,000	0.000	6.86
27-Feb-96	15-Nov-2009	50,000,000	0.000	6.68
28-Feb-96	15-Nov-2009	75,000,000	0.000	6.66
08-Mar-96	15-Nov-2009	100,000,000	0.000	6.92
11-Mar-96	15-Nov-2009	100,000,000	0.000	7.00
15-Mar-96	15-Nov-2009	100,000,000	0.000	7.01
27-Mar-96	15-Nov-2014	100,000,000	0.000	6.98
05-Apr-96	15-Nov-2009	100,000,000	0.000	7.11
05-Apr-96	15-Nov-2014	200,000,000	0.000	7.24
11-Apr-96	15-Nov-2009	100,000,000	0.000	7.25
11-Apr-96	15-Nov-2014	100,000,000	0.000	7.32
23-Apr-96	15-Nov-2009	100,000,000	0.000	7.10
23-Apr-96	15-Nov-2014	100,000,000	0.000	7.17
24-Apr-96	15-Nov-2009	133,000,000	0.000	7.11
24-Apr-96	15-Nov-2014	82,000,000	0.000	7.17
02-May-96	15-Nov-2009	100,000,000	0.000	7.32
03-May-96	15-Nov-2014	100,000,000	0.000	7.41
07-May-96	15-Nov-2009	100,000,000	0.000	7.43
28-May-96	15-Nov-2009	100,000,000	0.000	7.15
28-May-96	15-Nov-2014	100,000,000	0.000	7.22
03-Jun-96	15-Aug-2006	55,000,000	0.000	7.05
13-Jun-96	15-Nov-2009	100,000,000	0.000	7.51
13-Jun-96	15-Nov-2014	100,000,000	0.000	7.53
25-Jun-96	15-Nov-2009	100,000,000	0.000	7.32
25-Jun-96	15-Aug-2006	100,000,000	0.000	7.09
23-Jul-96	15-Nov-2009	250,000,000	0.000	7.25
27-Aug-96	15-Nov-2009	250,000,000	0.000	7.21
24-Sep-96	15-May-2007	100,000,000	0.000	7.02
24-Sep-96	15-Nov-2009	125,000,000	0.000	7.24
22-Oct-96	15-Nov-2009	250,000,000	0.000	6.98
22-Nov-96	15-Nov-2009	100,000,000	0.000	6.58
17-Dec-96	15-Nov-2009	200,000,000	0.000	6.87

Table 3-I. Progress of the Railroad Retirement (RR) and Social Security Equivalent Benefit (SSEB) Accounts under Employment Assumption I
(Dollar amounts in millions)

Calendar year	Railroad Retirement Account: Benefits and administration	Tax income 1/	Other income 2/	Balance, end year	Social Security Equivalent Benefit Account: Benefits and administration	Tax income	Other income and expense 3/	Balance, end year	Combined RR and SSEB balance, end year
1997	$2,955	$2,589	$1,727	$13,592	$5,038	$1,998	$2,291	$1,241	$14,833
1998	3,004	2,644	906	14,138	5,095	2,042	3,192	1,380	15,518
1999	3,063	2,697	940	14,711	5,157	2,085	3,221	1,529	16,240
2000	3,131	2,751	965	15,296	5,235	2,127	3,266	1,687	16,983
2001	3,202	2,807	995	15,896	5,310	2,171	3,309	1,856	17,752
2002	3,282	2,863	1,033	16,510	5,388	2,214	3,354	2,036	18,546
2003	3,368	2,921	1,070	17,133	5,469	2,257	3,404	2,228	19,361
2004	3,457	2,979	1,106	17,762	5,556	2,300	3,460	2,432	20,194
2005	3,549	3,038	1,134	18,385	5,651	2,344	3,525	2,650	21,035
2006	3,649	3,099	1,171	19,005	5,753	2,389	3,597	2,882	21,887
2007	3,761	3,161	1,208	19,613	5,862	2,433	3,676	3,130	22,743
2008	3,886	3,225	1,246	20,199	5,987	2,478	3,773	3,394	23,593
2009	4,016	3,290	1,278	20,751	6,142	2,523	3,902	3,676	24,427
2010	4,149	3,356	1,271	21,230	6,318	2,568	4,050	3,976	25,206
2011	4,287	3,425	1,299	21,667	6,504	2,617	4,209	4,298	25,965
2012	4,428	3,497	1,322	22,057	6,702	2,667	4,378	4,641	26,698
2013	4,568	3,571	1,342	22,403	6,914	2,720	4,561	5,007	27,410
2014	4,705	3,648	1,360	22,706	7,135	2,775	4,751	5,399	28,105
2015	4,838	3,728	1,361	22,956	7,361	2,834	4,945	5,816	28,772
2016	4,960	3,810	1,356	23,163	7,592	2,896	5,141	6,262	29,425
2017	5,070	3,897	1,367	23,356	7,821	2,963	5,333	6,737	30,093
2018	5,168	3,987	1,379	23,553	8,037	3,034	5,510	7,243	30,796
2019	5,250	4,080	1,391	23,774	8,240	3,109	5,670	7,782	31,556
2020	5,315	4,178	1,405	24,042	8,425	3,189	5,810	8,356	32,398
2021	5,364	4,279	1,423	24,380	8,586	3,275	5,922	8,967	33,347
2022	5,399	4,386	1,446	24,813	8,725	3,365	6,010	9,616	34,429
2023	5,421	4,497	1,474	25,364	8,845	3,459	6,075	10,305	35,669
2024	5,432	4,613	1,511	26,055	8,951	3,559	6,125	11,037	37,092
2025	5,438	4,734	1,555	26,906	9,048	3,662	6,163	11,814	38,720
2026	5,442	4,860	1,610	27,934	9,132	3,770	6,188	12,639	40,573
2027	5,448	4,992	1,676	29,154	9,212	3,882	6,205	13,515	42,669
2028	5,457	5,129	1,753	30,579	9,296	3,997	6,228	14,444	45,023
2029	5,469	5,271	1,842	32,224	9,390	4,116	6,259	15,430	47,654
2030	5,484	5,420	1,945	34,106	9,487	4,241	6,293	16,476	50,582
2035	5,689	6,282	2,688	47,552	10,017	4,948	6,477	22,749	70,301
2040	6,165	7,392	3,902	69,293	10,726	5,838	6,782	31,188	100,481
2045	6,967	8,841	5,741	102,080	11,758	6,986	7,321	42,546	144,626
2050	8,052	10,698	8,440	150,096	13,231	8,457	8,207	57,836	207,932
2055	9,301	12,986	12,350	219,653	15,155	10,284	9,491	78,422	298,075
2060	10,668	15,785	17,998	320,091	17,474	12,534	11,157	106,125	426,216
2065	12,310	19,187	26,098	463,996	20,273	15,274	13,358	143,384	607,380
2070	14,487	23,318	37,568	667,523	23,799	18,592	16,443	193,472	860,995

1/ Includes payroll taxes, income taxes on benefits, and tax transfers from Railroad Retirement Supplemental Account.

2/ Includes interest income, repayment of loan made to Railroad Retirement Supplemental Account, and calendar year 1997 payment from SSEB Account.

3/ Other income includes financial interchange income, advances from general revenues, and interest income. Other expense includes repayment of advances from general revenues, and calendar year 1997 payment to RR Account.

Table 3-II. Progress of the Railroad Retirement (RR) and Social Security Equivalent Benefit (SSEB) Accounts under Employment Assumption II
(Dollar amounts in millions)

Calendar year	Railroad Retirement Account: Benefits and administration	Railroad Retirement Account: Tax income 1/	Railroad Retirement Account: Other income 2/	Railroad Retirement Account: Balance, end year 3/	Social Security Equivalent Benefit Account: Benefits and administration	Social Security Equivalent Benefit Account: Tax income	Social Security Equivalent Benefit Account: Other income and expense 4/	Social Security Equivalent Benefit Account: Balance, end year 5/	Transfers from SSEB to RR	Balance after transfers from SSEB to RR: RR	Balance after transfers from SSEB to RR: SSEB	Combined RR and SSEB balance, end year
1997	$2,955	$2,571	$1,726	$13,573	$5,038	$1,984	$2,305	$1,241		$13,573	$1,241	$14,814
1998	3,004	2,598	903	14,071	5,095	2,007	3,227	1,380		14,071	1,380	15,451
1999	3,063	2,625	933	14,565	5,157	2,029	3,276	1,529		14,565	1,529	16,094
2000	3,131	2,652	953	15,039	5,235	2,051	3,342	1,687		15,039	1,687	16,726
2001	3,202	2,679	976	15,492	5,310	2,072	3,407	1,856		15,492	1,856	17,348
2002	3,282	2,706	1,004	15,920	5,388	2,093	3,475	2,036		15,920	2,036	17,956
2003	3,368	2,734	1,029	16,316	5,469	2,113	3,548	2,228		16,316	2,228	18,544
2004	3,457	2,761	1,051	16,671	5,556	2,131	3,630	2,432		16,671	2,432	19,103
2005	3,549	2,788	1,061	16,971	5,651	2,150	3,719	2,650		16,971	2,650	19,621
2006	3,649	2,816	1,078	17,216	5,753	2,168	3,817	2,882		17,216	2,882	20,098
2007	3,761	2,844	1,091	17,390	5,861	2,185	3,924	3,130		17,390	3,130	20,520
2008	3,886	2,873	1,102	17,479	5,987	2,202	4,049	3,394		17,479	3,394	20,873
2009	4,015	2,901	1,103	17,468	6,141	2,217	4,206	3,676		17,468	3,676	21,144
2010	4,148	2,930	1,062	17,311	6,315	2,233	4,383	3,976		17,311	3,976	21,287
2011	4,286	2,960	1,050	17,035	6,499	2,250	4,571	4,298		17,035	4,298	21,333
2012	4,426	2,992	1,029	16,630	6,695	2,269	4,769	4,641		16,630	4,641	21,271
2013	4,565	3,026	1,000	16,092	6,903	2,289	4,980	5,007		16,092	5,007	21,099
2014	4,700	3,061	964	15,416	7,119	2,311	5,199	5,398		15,416	5,398	20,814
2015	4,831	3,098	905	14,587	7,338	2,335	5,421	5,815		14,587	5,815	20,402
2016	4,951	3,137	834	13,606	7,561	2,361	5,645	6,260		13,606	6,260	19,866
2017	5,059	3,178	772	12,497	7,781	2,391	5,864	6,735		12,497	6,735	19,232
2018	5,152	3,222	705	11,271	7,986	2,425	6,066	7,240		11,271	7,240	18,511
2019	5,228	3,268	630	9,942	8,176	2,462	6,252	7,779		9,942	7,779	17,721
2020	5,286	3,317	550	8,523	8,347	2,503	6,416	8,351		8,523	8,351	16,874
2021	5,326	3,369	466	7,032	8,491	2,549	6,551	8,960		7,032	8,960	15,992
2022	5,349	3,425	377	5,485	8,611	2,598	6,660	9,608		5,485	9,608	15,093
2023	5,358	3,485	286	3,899	8,707	2,651	6,743	10,295		3,899	10,295	14,194
2024	5,354	3,549	193	2,287	8,789	2,709	6,810	11,024		2,287	11,024	13,311
2025	5,342	3,617	99	660	8,858	2,769	6,863	11,798		660	11,798	12,458
2026	5,326	3,689	4	(974)	8,912	2,833	6,900	12,619	$946	0	11,645	11,645
2027	5,309	3,765	(92)	(2,609)	8,956	2,900	6,926	13,490	1,531	0	10,881	10,881
2028	5,292	3,845	(187)	(4,242)	8,999	2,970	6,952	14,414	1,433	0	10,172	10,172
2029	5,272	3,929	(282)	(5,867)	9,047	3,043	6,984	15,394	1,331	0	9,527	9,527
2030	5,250	4,018	(376)	(7,475)	9,095	3,119	7,015	16,433	1,219	0	8,958	8,958
2035	5,187	4,551	(826)	(15,117)	9,271	3,568	7,096	22,649	624	0	7,532	7,532
2040	5,271	5,271	(1,218)	(21,726)	9,442	4,155	7,153	30,981		12	9,243	9,255
2045	5,612	6,248	(1,526)	(26,876)	9,785	4,934	7,354	42,148		2,215	13,057	15,272
2050	6,209	7,530	(1,717)	(29,932)	10,474	5,950	7,883	57,131		8,998	18,201	27,199
2055	6,951	9,122	(1,719)	(29,572)	11,535	7,221	8,824	77,246		22,526	25,148	47,674
2060	7,777	11,077	(1,390)	(23,217)	12,911	8,795	10,172	104,253		46,501	34,535	81,036
2065	8,797	13,458	(526)	(7,315)	14,650	10,715	12,063	140,508		85,984	47,209	133,193
2070	10,215	16,349	1,113	22,304	16,933	13,040	14,804	189,172		147,159	64,317	211,476

1/ Includes payroll taxes, income taxes on benefits, and tax transfers from Railroad Retirement Supplemental Account.

2/ Includes interest income, repayment of loan made to Railroad Retirement Supplemental Account, and calendar year 1997 payment from SSEB Account.

3/ For 2026 and later, balance is before transfers from SSEB Account.

4/ Other income includes financial interchange income, advances from general revenues, and interest income. Other expense includes repayment of advances from general revenues, and calendar year 1997 payment to RR Account.

5/ For 2026 and later, balance is before transfers to RR Account.

Table 3-III. Progress of the Railroad Retirement (RR) and Social Security Equivalent Benefit (SSEB) Accounts under Employment Assumption III
(Dollar amounts in millions)

Calendar year	Railroad Retirement Account: Benefits and administration	Railroad Retirement Account: Tax income 1/	Railroad Retirement Account: Other income 2/	Railroad Retirement Account: Balance, end year 3/	Social Security Equivalent Benefit Account: Benefits and administration	Social Security Equivalent Benefit Account: Tax income	Social Security Equivalent Benefit Account: Other income and expense 4/	Social Security Equivalent Benefit Account: Balance, end year 5/	Transfers from SSEB to RR	Balance after transfers from SSEB to RR: RR	Balance after transfers from SSEB to RR: SSEB	Combined RR and SSEB balance, end year
1997	$2,955	$2,550	$1,726	$13,552	$5,038	$1,969	$2,320	$1,241		$13,552	$1,241	$14,793
1998	3,004	2,545	900	13,994	5,095	1,967	3,267	1,380		13,994	1,380	15,374
1999	3,063	2,543	926	14,399	5,157	1,967	3,339	1,529		14,399	1,529	15,928
2000	3,131	2,540	940	14,747	5,235	1,965	3,428	1,687		14,747	1,687	16,434
2001	3,202	2,536	954	15,036	5,310	1,962	3,517	1,856		15,036	1,856	16,892
2002	3,282	2,533	971	15,258	5,388	1,959	3,610	2,036		15,258	2,036	17,294
2003	3,368	2,529	984	15,403	5,469	1,953	3,708	2,228		15,403	2,228	17,631
2004	3,457	2,523	989	15,458	5,556	1,947	3,814	2,432		15,458	2,432	17,890
2005	3,549	2,518	981	15,407	5,651	1,939	3,930	2,650		15,407	2,650	18,057
2006	3,649	2,512	975	15,245	5,753	1,930	4,055	2,882		15,245	2,882	18,127
2007	3,761	2,506	963	14,952	5,861	1,920	4,189	3,130		14,952	3,130	18,082
2008	3,885	2,499	945	14,511	5,986	1,909	4,341	3,394		14,511	3,394	17,905
2009	4,015	2,491	913	13,900	6,139	1,895	4,526	3,676		13,900	3,676	17,576
2010	4,148	2,483	834	13,070	6,312	1,881	4,731	3,976		13,070	3,976	17,046
2011	4,284	2,476	781	12,043	6,494	1,868	4,947	4,298		12,043	4,298	16,341
2012	4,424	2,470	713	10,802	6,687	1,856	5,174	4,640		10,802	4,640	15,442
2013	4,561	2,464	634	9,339	6,890	1,844	5,412	5,006		9,339	5,006	14,345
2014	4,696	2,459	541	7,643	7,101	1,834	5,658	5,397		7,643	5,397	13,040
2015	4,824	2,455	419	5,693	7,313	1,824	5,906	5,814		5,693	5,814	11,507
2016	4,941	2,452	280	3,483	7,527	1,817	6,155	6,259		3,483	6,259	9,742
2017	5,046	2,450	143	1,031	7,736	1,812	6,398	6,732		1,031	6,732	7,763
2018	5,135	2,450	(6)	(1,660)	7,929	1,810	6,624	7,237	$1,612	0	5,577	5,577
2019	5,204	2,452	(169)	(4,582)	8,106	1,811	6,832	7,774	2,740	0	3,192	3,192
2020	5,254	2,454	(346)	(7,727)	8,260	1,815	7,017	8,346	2,786	0	619	619
2021	5,284	2,459	(535)	(11,087)	8,387	1,822	7,173	8,953	740	(2,134)	0	(2,134)
2022	5,295	2,467	(737)	(14,652)	8,486	1,832	7,299	9,598	105	(5,054)	0	(5,054)
2023	5,289	2,477	(951)	(18,415)	8,559	1,845	7,398	10,283	106	(8,132)	0	(8,132)
2024	5,269	2,489	(1,175)	(22,370)	8,615	1,861	7,480	11,009	106	(11,361)	0	(11,361)
2025	5,238	2,503	(1,411)	(26,516)	8,654	1,879	7,547	11,780	107	(14,736)	0	(14,736)
2026	5,200	2,522	(1,659)	(30,853)	8,676	1,900	7,593	12,597	107	(18,256)	0	(18,256)
2027	5,159	2,550	(1,917)	(35,379)	8,683	1,928	7,621	13,463	107	(21,916)	0	(21,916)
2028	5,113	2,583	(2,186)	(40,095)	8,683	1,960	7,641	14,381	107	(25,714)	0	(25,714)
2029	5,060	2,618	(2,467)	(45,003)	8,683	1,994	7,663	15,354	107	(29,649)	0	(29,649)
2030	4,998	2,657	(2,758)	(50,103)	8,680	2,031	7,681	16,386	108	(33,717)	0	(33,717)
2035	4,656	2,915	(4,390)	(78,620)	8,489	2,264	7,603	22,543	105	(56,077)	0	(56,077)
2040	4,339	3,301	(6,352)	(112,912)	8,109	2,593	7,354	30,761	100	(82,151)	0	(82,151)
2045	4,226	3,857	(8,742)	(154,799)	7,770	3,044	7,182	41,731	96	(113,068)	0	(113,068)
2050	4,363	4,614	(11,722)	(207,145)	7,709	3,645	7,349	56,397	94	(150,748)	0	(150,748)
2055	4,646	5,568	(15,497)	(273,505)	7,973	4,407	7,966	76,034	99	(197,471)	0	(197,471)
2060	4,991	6,751	(20,295)	(357,863)	8,497	5,361	9,030	102,342	105	(255,521)	0	(255,521)
2065	5,481	8,195	(26,410)	(465,449)	9,301	6,528	10,673	137,596	115	(327,853)	0	(327,853)
2070	6,253	9,949	(34,264)	(603,744)	10,508	7,940	13,157	184,848	130	(418,896)	0	(418,896)

1/ Includes payroll taxes, income taxes on benefits, and tax transfers from Railroad Retirement Supplemental Account.

2/ Includes interest income, repayment of loan made to Railroad Retirement Supplemental Account, and calendar year 1997 payment from SSEB Account.

3/ For 2018 and later, balance is before transfers from SSEB Account.

4/ Other income includes financial interchange income, advances from general revenues, and interest income. Other expense includes repayment of advances from general revenues, and calendar year 1997 payment to RR Account.

5/ For 2018 and later, balance is before transfers to RR Account.

Table 4. Present value of benefits in millions of dollars

	Employment Assumption I			Employment Assumption II			Employment Assumption III		
	Tier 2	Tier 1 liability	Total	Tier 2	Tier 1 liability	Total	Tier 2	Tier 1 liability	Total
Employee annuities	$34,887	$14,299	$49,186	$33,433	$13,642	$47,075	$31,973	$12,983	$44,956
Retired	11,389	4,500	15,889	11,389	4,500	15,889	11,389	4,500	15,889
Active	17,344	6,954	24,298	17,344	6,954	24,298	17,344	6,954	24,298
Inactive	942	495	1,437	942	495	1,437	942	495	1,437
Future entrants	5,212	2,350	7,562	3,758	1,693	5,451	2,298	1,034	3,332
Spouse annuities	$9,080	$3,198	$12,278	$8,767	$3,093	$11,860	$8,452	$2,985	$11,437
Retired	3,386	1,196	4,582	3,386	1,196	4,582	3,386	1,196	4,582
Active	4,379	1,493	5,872	4,379	1,493	5,872	4,379	1,493	5,872
Inactive	189	127	316	189	127	316	189	127	316
Future entrants	1,126	382	1,508	813	277	1,090	498	169	667
Aged and disabled widow(er) annuities	$7,287	$1,240	$8,527	$7,132	$1,217	$8,349	$6,973	$1,195	$8,168
Retired & deceased	4,399	896	5,295	4,399	896	5,295	4,399	896	5,295
Active	2,289	248	2,537	2,289	248	2,537	2,289	248	2,537
Inactive	38	16	54	38	16	54	38	16	54
Future entrants	561	80	641	406	57	463	247	35	282
Other survivor annuities	$413	134	$547	$393	122	$515	$374	110	$484
Retired & deceased	193	29	222	193	29	222	193	29	222
Active	147	60	207	147	60	207	147	60	207
Inactive	3	3	6	3	3	6	3	3	6
Future entrants	70	42	112	50	30	80	31	18	49
Retired & deceased	$19,367	$6,621	$25,988	$19,367	$6,621	$25,988	$19,367	$6,621	$25,988
Active	$24,159	$8,755	$32,914	$24,159	$8,755	$32,914	$24,159	$8,755	$32,914
Inactive	$1,172	$641	$1,813	$1,172	$641	$1,813	$1,172	$641	$1,813
Future entrants	$6,969	$2,854	$9,823	$5,027	$2,057	$7,084	$3,074	$1,256	$4,330
Total annuities	$51,667	$18,871	$70,538	$49,725	$18,074	$67,799	$47,772	$17,273	$65,045
Lump sum payments			119			119			119
Total benefits			$70,657			$67,918			$65,164

* Negligible.

Table 5. Present value of benefits as a percentage of the present value of tier 2 payroll

	Employment Assumption I			Employment Assumption II			Employment Assumption III		
	Tier 2	Tier 1 liability	Total	Tier 2	Tier 1 liability	Total	Tier 2	Tier 1 liability	Total
Employee annuities	11.86%	4.86%	16.73%	13.76%	5.61%	19.37%	16.56%	6.73%	23.29%
Retired	3.87	1.53	5.40	4.69	1.85	6.54	5.90	2.33	8.23
Active	5.90	2.36	8.26	7.14	2.86	10.00	8.98	3.60	12.59
Inactive	0.32	0.17	0.49	0.39	0.20	0.59	0.49	0.26	0.74
Future entrants	1.77	0.80	2.57	1.55	0.70	2.24	1.19	0.54	1.73
Spouse annuities	3.09%	1.09%	4.18%	3.61%	1.27%	4.88%	4.38%	1.55%	5.92%
Retired	1.15	0.41	1.56	1.39	0.49	1.89	1.75	0.62	2.37
Active	1.49	0.51	2.00	1.80	0.61	2.42	2.27	0.77	3.04
Inactive	0.06	0.04	0.11	0.08	0.05	0.13	0.10	0.07	0.16
Future entrants	0.38	0.13	0.51	0.33	0.11	0.45	0.26	0.09	0.35
Aged and disabled widow(er) annuities	2.48%	0.42%	2.90%	2.93%	0.50%	3.44%	3.61%	0.62%	4.23%
Retired & deceased	1.50	0.30	1.80	1.81	0.37	2.18	2.28	0.46	2.74
Active	0.78	0.08	0.86	0.94	0.10	1.04	1.19	0.13	1.31
Inactive	0.01	0.01	0.02	0.02	0.01	0.02	0.02	0.01	0.03
Future entrants	0.19	0.03	0.22	0.17	0.02	0.19	0.13	0.02	0.15
Other survivor annuities	0.14%	0.05	0.19%	0.16%	0.05	0.21%	0.19%	0.06	0.25%
Retired & deceased	0.07	0.01	0.08	0.08	0.01	0.09	0.10	0.02	0.11
Active	0.05	0.02	0.07	0.06	0.02	0.09	0.08	0.03	0.11
Inactive	*	*	*	*	*	*	*	*	*
Future entrants	0.02	0.01	0.04	0.02	0.01	0.03	0.02	0.01	0.03
Retired & deceased	6.59%	2.25%	8.84%	7.97%	2.72%	10.69%	10.03%	3.43%	13.46%
Active	8.22%	2.98%	11.19%	9.94%	3.60%	13.54%	12.51%	4.53%	17.05%
Inactive	0.40%	0.22%	0.62%	0.48%	0.26%	0.75%	0.61%	0.33%	0.94%
Future entrants	2.37%	0.97%	3.34%	2.07%	0.85%	2.91%	1.59%	0.65%	2.24%
Total annuities	17.57%	6.42%	23.99%	20.46%	7.44%	27.90%	24.75%	8.95%	33.69%
Lump sum payments			0.04			0.05			0.06
Total benefits			24.03%			27.95%			33.75%

* Negligible.

Table 6. Balance of the Railroad Retirement and Social Security Equivalent Benefit Accounts as of December 31, 1995
(Dollar amounts in millions)

	RR Account	SSEB Account
Securities:		
Par value specials	$7,683	$2,254
Accrued interest	35	10
Future income from market-based specials	5,129 1/	-
Cash accounts	3	1
Total securities	$12,850	$2,265
Loan to Dual Benefits Payments Account	20 2/	-
Benefit payments for December 1995, due January 2, 1996	(235)	(410)
Balance	$12,635	$1,855
Accrual adjustments:		
Retirement taxes	66	66
Financial interchange - OASDI	-	4,366
Benefit accruals	(17)	(19)
Financial interchange - HI	-	(485)
Advances against the financial interchange	-	(3,748)
Balance, accrual basis	$12,684	$2,035

1/ After allowing for market-based purchases in 1996.

2/ The outstanding loan from the Railroad Retirement Account to the Dual Benefits Payments Account was fully repaid in January 1996. The Amount shown reflects the present value of the loan repayment as of December 31, 1995.

Notes:

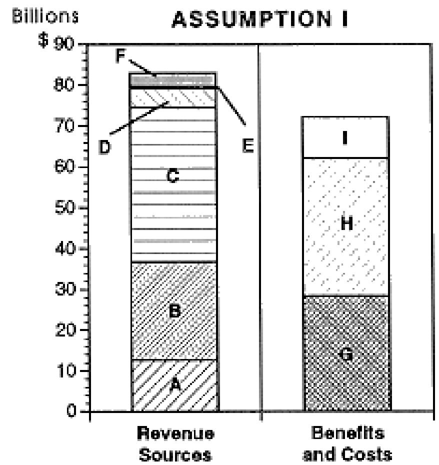
- Par value specials are securities issued by the Treasury directly to the Railroad Retirement and Social Security Equivalent Benefit Accounts, maturing on the first business day of the month following the month of issue. Their yield rate each month is the average yield rate, computed as of the last day of the previous month, of marketable Treasury notes with maturity dates not less than three years away.

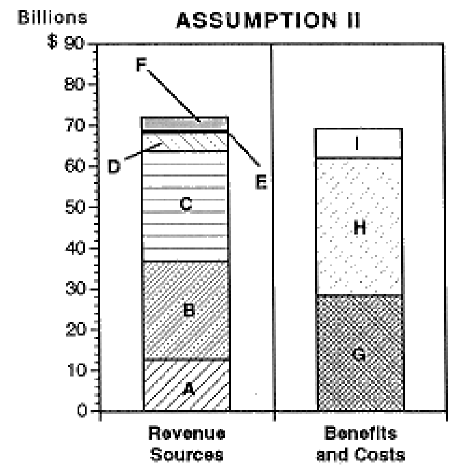
- A market-based special may be any marketable Treasury bill, note or bond, except that notes and bonds within six months of maturity are not currently available to the Railroad Retirement Board. The price is the same as the market price, but purchases and sales are made directly with the Treasury, so as not to affect the securities market.

Table 7. Actuarial surplus or (deficiency) for Railroad Retirement Account under employment assumptions I, II and III

	I	II	III
	Present values in millions of dollars		
1. Funds on hand, 12/31/95	$12,684	$12,684	$12,684
2. Retirement taxes	61,755	51,035	40,541
3. Income tax on benefits	4,678	4,497	4,314
4. Transfers from supplemental account	579	579	579
5. Available from SSEB Account	3,201	3,147	3,092
6. Total, present and prospective assets (1) + (2) + (3) + (4) + (5)	82,897	71,942	61,210
7. Benefit payments	70,657	67,918	65,164
8. Administrative expenses	1,358	1,303	1,248
9. Total liabilities, (7) + (8)	72,015	69,221	66,412
10. Actuarial surplus or (deficiency), (6) - (9)	10,882	2,721	(5,202)
One percent of tier 2 payroll	$2,941	$2,430	$1,931
	Present values as a percentage of tier 2 payroll		
1. Funds on hand, 12/31/95	4.31%	5.22%	6.57%
2. Retirement taxes	21.00	21.00	21.00
3. Income tax on benefits	1.59	1.85	2.23
4. Transfers from supplemental account	0.20	0.24	0.30
5. Available from SSEB Account	1.09	1.29	1.60
6. Total, present and prospective assets (1) + (2) + (3) + (4) + (5)	28.19	29.60	31.71
7. Benefit payments	24.03	27.95	33.75
8. Administrative expenses	0.46	0.54	0.65
9. Total liabilities, (7) + (8)	24.49	28.48	34.40
10. Actuarial surplus or (deficiency), (6) - (9)	3.70	1.12	(2.69)

Figure 2. Actuarial Surplus or Deficiency for Railroad Retirement Account Under Employment Assumptions I, II and III





Present value as of 12/31/95 of the projected cash flows during calendar years 1997-2070.

A Assets as of 12/31/95
B Future tier 2 taxes for current employees
C Future tier 2 taxes for new entrants
D Income tax on benefits
E Future transfers from the Railroad Retirement Supplemental Account
F Amounts available from the Social Security Equivalent Benefit Account

G Future Railroad Retirement Account benefit and administrative costs for former employees and dependents
H Future Railroad Retirement Account benefit and administrative costs for current employees and dependents
I Future Railroad Retirement Account benefit and administrative costs for new entrants and dependents

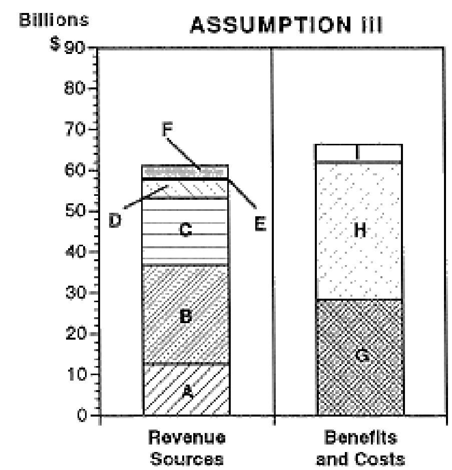


Table 8. Minimum contribution required under ERISA
(Dollar amounts in millions)

		Amount or rate		
1.	Present value of benefits for former and present employees	$60,834		
2.	Present value of administrative expenses for former and present employees	1,167		
3.	Funds on hand 12/31/95	14,719 1/		
4.	Present value of 1 percent of tier 2 payroll for present employees	1,148		
5.	Normal cost as a percentage of future entrant tier 2 payroll	7.85%		
6.	Present value of future service costs for present employees = (4) x (5)	9,012		
7.	Unfunded accrued liability = (1) + (2) - (3) - (6)	38,270		
8.	Level amount to fund accrued liability in 30 years	2,722		
9.	Contribution requirement for 1996 as a percentage of tier 2 payroll	32.62		
		Employment Assumption		
		I	II	III
10.	Level tax rate to fund accrued liability and meet normal costs for next 30 years	27.56%	30.09%	33.49%
11.	Tax rate after 30 years (normal cost rate)	7.85%	7.85%	7.85%

1/ The Railroad Retirement Act provides that the SSEB Account must transfer money to the RR Account if (1) the balance in the RR Account is insufficient to enable it to pay benefits and (2) the transfer will not jeopardize the payment of SSEB benefits. The balance in the SSEB Account results primarily from certain benefits which are paid by social security and not by the railroad retirement system. The amount shown reflects the combined RR Account and SSEB Account balances as shown separately in Table 6.

Table 9. Vested dual benefit amounts and average number of beneficiaries

Fiscal year	Vested dual benefit amounts 1/ (Millions)	Average number of beneficiaries
1997	$222	137,000
1998	206	124,000
1999	191	113,000
2000	175	102,000
2001	160	92,000
2002	146	83,000
2003	132	74,000
2004	119	66,000
2005	107	58,000
2006	96	52,000
2007	85	45,000
2008	75	40,000
2009	67	35,000
2010	58	30,000
2011	51	26,000
2012	44	23,000
2013	38	19,000
2014	33	17,000
2015	28	14,000
2016	24	12,000
2017	20	10,000
2018	17	8,000
2019	14	7,000
2020	11	6,000
2025	4	2,000
2030	1	1,000

1/ When projected amounts are used to determine the appropriation needed for benefit payments, a margin must be added to ensure payment of full benefits.

Table 10. Progress of the Railroad Retirement Supplemental Account

Calendar year	Beneficiaries 1/	Net benefit payments 2/ 3/ (Millions)	Transfer amount 3/ (Millions)	Tax rate, cents per hour, under each employment assumption 4/ I	II	III
1996	163,900	$89	$48	35	35	35
1997	158,100	85	47	35	35	35
1998	152,200	81	46	35	35	35
1999	146,400	78	45	35	35	35
2000	140,800	75	43	29-1/4	35	35
2001	135,500	72	42	28-1/2	30-1/2	35
2002	130,800	69	41	28	30-1/4	33
2003	126,600	67	40	27-1/2	30	33-1/4
2004	122,800	65	39	27-1/4	30	33-3/4
2005	119,500	63	38	27	30	34-1/4
2006	116,700	61	37	26-3/4	30-1/4	35
2007	114,500	60	36	26-3/4	30-1/2	35-3/4
2008	113,100	59	36	26-3/4	30-3/4	36-3/4
2009	112,200	59	36	27	31-1/2	38
2010	111,600	58	36	27-1/4	32	39-1/2
2011	111,200	58	36	27-1/2	32-3/4	41
2012	110,900	58	35	28	33-3/4	42-1/2
2013	110,800	58	35	28-1/4	34-1/2	44-1/4
2014	110,500	58	35	28-3/4	35-1/4	46
2015	110,000	57	35	29	36	47-1/2
2016	109,100	57	35	29-1/4	36-3/4	49-1/4
2017	107,800	56	34	29-1/4	37	50-1/2
2018	105,900	55	34	29-1/4	37-1/4	51-1/2
2019	103,300	54	33	29	37-1/4	52-1/4
2020	100,200	52	32	28-1/2	37	52-3/4

1/ Average number in a year. Excludes cases where the supplemental annuity is totally eliminated because of a private pension. On January 1, 1996, there were about 38,000 of these cases.

2/ Includes administrative expenses ($2.2 million in 1996).

3/ Benefit payments are on the $70 maximum basis for accruals before 1975 and on the $43 maximum basis for accruals after 1974. Taxes are collected on the $70 basis for all employees, and the difference is transferred from the supplemental account to the regular Railroad Retirement Account.

4/ Actual rate is shown for 1996. Actual rate for first two quarters of 1997 is 35 cents per hour. The rate is assumed to remain at 35 cents per hour until the outstanding loan from the Railroad Retirement Account to the Railroad Retirement Supplemental Account is repaid. The loan balance outstanding on March 31, 1997, was $45 million.

Table 11. Average number of railroad retirement annuitants and number of annuitants per full time employee

Calendar year	Average number of annuitants under each employment assumption			Average number of annuitants per full time employee		
	I	II	III	I	II	III
1997	754,900	754,900	754,900	3.00	3.03	3.08
1998	731,000	731,000	731,000	2.95	3.03	3.12
1999	707,600	707,600	707,600	2.90	3.01	3.16
2000	684,700	684,700	684,700	2.85	3.00	3.18
2001	662,600	662,600	662,600	2.81	2.98	3.22
2002	641,700	641,700	641,700	2.77	2.98	3.26
2003	622,000	622,000	622,000	2.73	2.98	3.29
2004	603,300	603,300	603,300	2.68	2.96	3.33
2005	585,900	585,900	585,900	2.65	2.96	3.39
2006	569,800	569,800	569,800	2.63	2.95	3.43
2007	555,300	555,300	555,300	2.59	2.95	3.47
2008	542,700	542,700	542,700	2.57	2.97	3.55
2009	532,200	532,100	532,000	2.57	2.99	3.62
2010	523,100	523,000	522,800	2.56	3.02	3.71
2011	515,200	515,000	514,700	2.56	3.05	3.81
2012	508,300	507,900	507,500	2.57	3.10	3.90
2013	502,200	501,700	501,100	2.58	3.14	4.01
2014	496,600	495,800	494,900	2.59	3.18	4.12
2015	491,100	490,100	488,900	2.60	3.22	4.25
2016	485,700	484,300	482,700	2.61	3.27	4.35
2017	479,900	478,100	476,100	2.62	3.30	4.49
2018	473,400	471,200	468,700	2.63	3.34	4.60
2019	466,200	463,400	460,400	2.62	3.36	4.70
2020	458,000	454,700	451,000	2.62	3.37	4.75
2021	448,800	444,800	440,500	2.61	3.37	4.84
2022	438,700	434,000	428,900	2.58	3.36	4.87
2023	427,800	422,300	416,300	2.55	3.35	4.90
2024	416,500	410,100	403,200	2.52	3.33	4.92
2025	404,900	397,600	389,700	2.48	3.29	4.93
2026	393,100	384,800	375,900	2.43	3.23	4.88
2027	381,400	372,000	362,000	2.38	3.18	4.83
2028	370,100	359,500	348,200	2.34	3.13	4.77
2029	359,100	347,300	334,600	2.29	3.05	4.65
2030	348,600	335,300	321,200	2.25	2.99	4.52
2035	302,100	280,200	257,100	2.01	2.64	3.90
2040	266,900	235,000	201,700	1.83	2.28	3.20
2045	242,700	201,700	159,600	1.67	1.98	2.57
2050	226,700	179,200	131,300	1.56	1.76	2.12
2055	214,700	163,300	112,500	1.48	1.60	1.81
2060	203,700	150,500	98,900	1.40	1.48	1.60
2065	194,000	140,200	88,900	1.34	1.37	1.43
2070	186,800	132,900	82,400	1.29	1.30	1.33

Table 12. Transfers to railroad retirement system under financial interchange with social security system, 1937-1996 1/
(Millions of dollars)

Determination number	Fiscal years covered	Benefit credits to railroad retirement 2/	Tax credits to social security	Cash transfers to 3/ railroad retirement: Amount	Cash transfers to 3/ railroad retirement: Year of transfer
1-11	1937-62 4/	$5,229.3	$3,367.6	$1,813.5 4/	1953-63 4/
12	1963	679.2	276.2	421.8	1964
13	1964	727.8	290.3	459.3	1965
14	1965	737.6	291.7	468.8	1966
15	1966	817.3	306.0	538.7	1967
16	1967	806.4	373.0	458.0	1968
17	1968	848.2	364.2	512.8	1969
18	1969	961.3	408.1	589.3	1970
19	1970	1,018.4	436.7	626.3	1971
20	1971	1,155.8	458.5	748.5	1972
21	1972	1,217.1	470.9	802.5	1973
22	1973	1,412.8	556.4	930.9	1974
23	1974	1,575.6	653.5	1,010.3	1975
24	1975	1,853.3	718.7	1,238.7	1976
25	1976	1,872.2 6/	772.0	1,207.5	1977
26	1977 5/	2,556.6 6/	1,060.8	1,618.5	1978
27	1978	2,230.3	902.6	1,477.4	1979
28	1979	2,389.5	1,089.9	1,429.9	1980
29	1980	2,683.4	1,204.8	1,614.4	1981
30	1981	2,973.7	1,322.5	1,819.6	1982
31	1982	3,321.9	1,296.0	2,278.6	1983
32	1983	3,471.8	1,287.9	2,425.6	1984
33	1984	3,524.1	1,472.8	2,352.9	1985
34	1985	3,658.5	1,443.1	2,652.8	1986
35	1986	3,744.8	1,398.7	2,614.2	1987
36	1987	3,864.4	1,305.0	2,851.3	1988
37	1988	4,028.8	1,427.3	2,933.5	1989
38	1989	4,149.5	1,418.9	3,049.1	1990
39	1990	4,415.3	1,451.1	3,456.7	1991
40	1991	4,434.7	1,476.5	3,206.4	1992
41	1992	4,720.1	1,523.1	3,435.4	1993
42	1993	4,796.5	1,583.3	3,525.5	1994
43	1994	5,199.6	1,515.5	4,120.1	1995
44	1995	4,836.2 6/	1,545.1	3,556.3	1996
Total	1937-1995	$91,912.1	$35,468.8	$62,244.8	

1/ Financial interchange transactions with the Hospital Insurance Trust Fund are not included. These involve mainly a transfer of collected taxes to social security, with some adjustments for difference in earnings bases under the two systems.

2/ Benefit amounts were credited to Railroad Retirement Account for covered years 1983 and earlier and to Social Security Equivalent Benefit Account for covered years 1984 and later. Amounts include allowances for administrative expenses and adjustments to previous determinations.

3/ Cash transfers were made to Railroad Retirement Account in 1984 and earlier and to Social Security Equivalent Benefit Account in 1985 and later. Transfers include interest, which is not shown in table.

4/ First determinations covered period January 1937-June 1952. Initial balance of $488.2 million was never transferred to social security; only interest was paid until debt was liquidated by subsequent offsets in favor of railroad retirement. Total interest was $35.4 million.

5/ 1977 figure covered 15 months (July 1976 - September 1977) because of change in definition of fiscal year.

6/ Includes adjustment for pre-1957 military service.

APPENDIX

Outline of the benefit and financing provisions
of the railroad retirement system as amended through December 31, 1996

EMPLOYEE BENEFITS

1. Normal age annuity

10 year service requirement for retirement at social security retirement age (see definition at end of outline).

2. Prenormal age annuity

A. Eligible upon later of (1) attainment of age 60 and (2) completion of 30 years of service (60/30 eligibility).

1. If became eligible before 7-1-84, unreduced benefit for retirement at age 60. Employee deemed age 65.

2. If became eligible after 6-30-84, unreduced benefit for retirement at age 62.

3. If became eligible after 12-31-85 and employee retires before age 62, tier 1 benefit on annuity beginning date is equal to what social security would have paid an individual retiring at age 62 after applying any age reduction, except that the number of benefit computation years depends on the employee's actual year of birth. Tier 1 benefit is frozen until attainment of age 62, when it is recomputed to equal what social security would have paid the individual had he retired at that time. Tier 2 benefit is not reduced for age. If became eligible between 7-1-84 and 12-31-85, the same procedure applies, except that the age reduction in tier 1 benefit is only one-half the amount applicable after 12-31-85.

B. Other prenormal retirements

For employees retiring at ages 62-64 with 10 but less than 30 years of service, the benefit is reduced by 1/180 for each of the first 36 months and by 1/240 for each additional month the employee is under social security retirement age. (Reduction for age in excess of 36 months applies only to tier 1 benefit if employee had any service before 8-12-83.)

3. Total and permanent disability annuity

10-year service requirement. Benefit may not begin earlier than the later of the first day of the sixth month following date disability begins or the first day of the twelfth month before the month in which the application is filed.

4. Occupational disability annuity

Requirement of 20 years of service or attainment of age 60 with 10 years of service; current connection (see definition at end of outline) required. Benefit may not begin earlier than the later of the first day of the sixth month following date disability begins or the first day of the twelfth month before the month in which the application is filed.

5. Supplemental annuity

Requirement of attainment of age 60 with 30 years of service if retired on or after 7-1-74, or age 65 with 25 years of service. Must have service before 10-1-81. Current connection required.

6. Vested dual benefit

A. Requirement of fully insured (see definition at end of outline) status under Social Security Act effective 12-31-74 and either (i) 25 years of railroad service before 1975 or (ii) 10 years of railroad service before 1975, with some railroad work in 1974 or a current connection on 12-31-74 or at the time the annuity begins,

or if the above conditions were not met,

B. Requirement of fully insured status under Social Security Act as of last year of railroad work before 1975 and 10 years of railroad service before 1975.

7. Work restrictions

Suspension of annuity for any month annuitant is employed by a railroad. For disabilities, loss of one month's annuity for each $400 in excess of $4,800 earned in a year with the last $200 of such excess treated as $400 (no annuity is lost for any month with earnings below $400). In addition, the tier 1 portion of a regular annuity based on railroad earnings (see definition at end of outline) after 1974 and all social security earnings (see definition at end of outline) is subject to social security work restrictions, unless a social security benefit is also being paid. If annuitant is employed by last non-railroad employer preceding retirement, the tier 2 portion and the supplemental annuity are also affected, being reduced one dollar for each two dollars of earnings, subject to a maximum reduction of 50 percent. All vested dual benefits are subject to social security work restrictions.

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8. Creditable service (continuity not required)

All service after December 31, 1936. Service before 1937 may be used if annuitant had employment relation on August 29, 1935 or 6 months of service after August 29, 1935 and before 1946. No limit on service except 30-year maximum if pre-1937 service used. Additional service months may be deemed, for years after 1984, where employee does not work in every month of year, but railroad earnings exceed monthly prorations of annual maximum earnings creditable.

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9. Creditable and taxable railroad earnings

Maximum monthly earnings

$ 300	- before July 1, 1954
350	- July 1, 1954 - May 31, 1959
400	- June 1, 1959 - October 31, 1963
450	- November 1, 1963 - December 31, 1965
550	- 1966-67
650	- 1968-71
750	- 1972
900	- 1973
1,100	- 1974
1,175	- 1975
1,275	- 1976
1,375	- 1977
1,475	- 1978

From 1966 through 1978, the amount was one-twelfth of the annual social security maximum. The 1977 social security amendments introduced a difference between the maximum monthly earnings creditable for tier 1 and tier 2 benefits starting in 1979.

	Tier 1	Tier 2
1979	$1,908.33	$1,575
1980	2,158.33	1,700
1981	2,475	1,850
1982	2,700	2,025
1983	2,975	2,225
1984	3,150	2,350

Starting in 1985, earnings are credited on an annual rather than a monthly basis. The annual maximums are:

	Tier 1	Tier 2
1985	$39,600	$29,700
1986	42,000	31,500
1987	43,800	32,700
1988	45,000	33,600
1989	48,000	35,700
1990	51,300	38,100
1991	53,400	39,600
1992	$55,500	$41,400
1993	57,600	42,900
1994	60,600	45,000
1995	61,200	45,300
1996	62,700	46,500
1997	65,400	48,600

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10. Creditable military service and earnings

Military service is creditable in war and national emergency periods, and in some cases between June 15, 1948 and December 15, 1950, if preceded by railroad service in the year of entry into military service or the preceding year.

Earnings: $160 before 1968
$260 after 1967 but before 1975
For each calendar year after 1974, earnings are the same as that credited under social security.

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11. Basic monthly annuity formula for all types of retirement cases

Tier 1 - social security component

Social security benefit based on combined railroad and social security earnings, less social security benefit actually payable (based on social security earnings only). See item 2 for computation of tier 1 benefit for employees with 60/30 eligibility.

Tier 2 - railroad industry component

0.7% of the average monthly compensation (AMC) multiplied by the number of years of service. This amount is then reduced by 25% of the employee's gross vested dual benefit. The AMC is the average of an individual's highest 60 months of railroad earnings up to the tier 2 maximum. For each month of service in a year for which the Railroad Retirement Board's records do not show earnings on a monthly basis, the total earnings for the year divided by the months of service in that year will be considered the monthly earnings for each month of service in the year.

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12. Vested dual benefit computation

A. For employees satisfying requirements in item 6.A., benefit is social security benefit based on railroad earnings through 1974, plus social security benefit based on social security earnings through 1974, less social security benefit based on combined railroad and social security earnings through 1974.

B. For employees satisfying requirements of item 6.B., benefit is the same as in A., except for the exclusion of all earnings after last pre-1975 year employee had railroad employment.

In both cases, benefit might be proportionally reduced so that the total amount paid out in vested dual benefits in any fiscal year does not exceed the total amount appropriated for that year (see item 42).

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13. Supplemental annuity computation

For employees who were entitled to supplemental annuities or who would have been entitled, but for last person service, prior to 1975, the monthly benefit is a minimum of $45 increased by $5 for each year of service over 25, with a maximum benefit of $70. These employees have a reduction in their regular railroad retirement annuity because of the supplemental annuity. For employees first entitled or potentially entitled after 1974, the monthly benefit is a minimum of $23 increased by $4 for each year of service over 25, with a maximum benefit of $43. These employees have no reduction in their regular railroad retirement annuity. Supplemental annuity will be reduced if employee receives a private pension from railroad employer based on employer contributions.

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14. Cost-of-living increases (annually, effective with January 1 payments)

Tier 1: Same as social security increases.

Tier 2: 32.5% of social security increases.

Vested dual benefits: Frozen at the 1974 level, except that social security cost-of-living increases effective between 12-31-74 and the earlier of January 1, 1982 and the annuity beginning date are included in the benefit computation.

Supplemental annuity: None.

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15. Tax rebate lump sum

Employee who has at least 10 years of railroad service and is not eligible for the vested dual benefit will receive a lump sum at retirement computed by summing for each year from 1951 through 1974 the product of the social security tax rate for the year times the excess of the employee's combined railroad and social security earnings for the year over (approximately) the maximum creditable for the year under the 1937 Act. Survivors of employee may receive refund if employee dies before receiving it.

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16. Separation/severance lump sum

Lump sum, equal to tier 2 payroll taxes deducted from separation or severance payments, will be paid at retirement to employees with 10 or more years of service to the extent that separation or severance payments did not yield additional tier 2 service credits.

SPOUSE BENEFITS

17. Eligibility

A. Unreduced annuity:

1. Spouse retiring at age 60 (or any age with a child in care), if employee attained 60/30 eligibility before 7-1-84 and retired at age 60 or later, or if employee attained 60/30 eligibility after 6-30-84 and retired at age 62 or later.

2. Spouse retiring at social security normal retirement age (or any age with a child in care), if (a) employee retired before 1-1-75 and is age 65 or over, (b) employee retired after 12-31-74 and is age 62 or over, or (c) employee retired after 6-30-74, has 30 or more years of service and is age 60 or over.

B. Reduced annuity:

1. Spouse retiring at age 60 if employee attained 60/30 eligibility after 6-30-84 and retired after 6-30-84 before attaining age 62. If employee and spouse have not both attained age 62, spouse tier 1 is one-half the tier 1 the employee received before attaining age 62. If employee and spouse have both attained age 62, spouse tier 1 is equal to a social security spouse benefit after applying an age reduction based on the spouse's age at the time both employee and spouse became age 62; in this case, if employee attained 60/30 eligibility between 7-1-84 and 12-31-85, spouse age reduction is one-half the amount otherwise applicable.

2. Spouse retiring at age 60, if employee attained 60/30 eligibility after 6-30-84 and retired from disability after 6-30-84. Age reduction in tier 1 is 1/144 for each of first 36 months and 1/240 for each additional month spouse is under social security retirement age; spouses retiring at 60-61 are deemed 62.

3. Spouse retiring at age 62, if employee has less than 30 years of service, is retired, and has attained age 62. Age reduction is 1/144 for each of the first 36 months spouse is under social security retirement age and 1/240 for each month in excess of 36 that spouse is under retirement age. (Reduction for age in excess of 36 months applies to tier 1, but not tier 2, if employee had any service before 8-12-83.)

18. Work restrictions

Same as employee; in addition, spouse is not paid for any month employee annuity is not payable by virtue of work restrictions, and spouse is reduced $1 for each $2 of employee's earnings for last non-railroad employer preceding employee's retirement (see item 7).

19. Annuity formula

Tier 1 - social security component

One-half of social security benefit based on employee's combined railroad and social security earnings. See item 17 for computation of spouse tier 1 in cases where employee is receiving a reduced 60/30 benefit. If spouse is entitled to a social security benefit, tier 1 is reduced by the amount of the benefit, but not below 0. If spouse is entitled to employee annuity or a public service pension, certain additional restrictions apply.

Tier 2 - railroad industry component

45% of employee's tier 2 benefit. Spouse receives additional benefit if spouse is also an employee annuitant and either the employee or spouse has railroad service prior to 1975.

20. Vested dual benefit

A spouse receiving a vested dual benefit on August 13, 1981 will continue to receive a benefit (adjusted as described in item 12). No vested dual benefits will be awarded after that date.

21. Divorced spouse

Entitled to a tier 1 benefit only. Employee must be age 62 and retired. Divorced spouse must be social security normal retirement age (or age 62 for reduced benefit), unmarried, and have been married for at least 10 years to employee.

22. Cost-of-living increases

Each tier is subject to same percentage increase as corresponding tier of employee benefit.

MAXIMUM AND MINIMUM ANNUITIES

23. Maximum annuity (employee and spouse)

100% of "final AMC" up to an amount equal to 50% of 1/12 of the annual tier 1 earnings limit in the year in which the annuity begins, plus 80% of that part of the final AMC that exceeds 50% of 1/12 of the annual tier 1 earnings limit. The final AMC is the average monthly combined railroad and social security earnings received by the employee during the two highest calendar years of earnings in the 10 years ending with retirement. Earnings used in computing the final AMC are subject to the tier 2 earnings maximum.

If the combined employee and spouse annuities (before reduction for age and social security benefits, and excluding the vested dual benefit) exceed the above amount, the spouse's tier 2 benefit is reduced first, then the employee's supplemental annuity, and finally the employee's tier 2 benefit. The tier 1 benefits are not reduced. The maximum may not reduce total family benefits (excluding the vested dual benefit, and before reduction for age and social security benefit) below $1,200 per month.

24. Minimum annuity

The overall minimum guaranty for employees and dependents is 100% of the amount, or the additional amount, the family would receive under the Social Security Act if the employee's railroad earnings after 1936 were credited as social security earnings.

SURVIVOR AND DEATH BENEFITS

25. Residual lump sum death benefit

Payable when it appears no further benefits will derive from deceased employee except possibly to a widow, widower or parent at a future date. In this case, survivor must waive the right to all future benefits based on the deceased employee's railroad service. The amount payable is the sum of 4% of taxable railroad earnings from 1-1-37 to 12-31-46, 7% from 1-1-47 to 12-31-58, 7-1/2% from 1-1-59 to 12-31-61, 8% from 1-1-62 to 12-31-65, and from 1-1-66 to 12-31-74, 1/2% above the employee tier 2 contribution rate. Railroad earnings after 1974 are not taken into account. The amount actually paid is reduced by the amount of benefits paid deriving from the deceased employee.

26. Employee requirement for survivor benefits

All benefits except residual lump sum require deceased employee to have 10 years of railroad service and a current connection. If employee does not meet above conditions, his earnings record is transferred to social security, which pays any survivor benefits.

27. Aged widow's and widower's eligibility

A widow or widower must be age 60 and unremarried. Those age 60-61 are deemed age 62 in computing the benefit. For those born before 1940, the benefit reduction is 19/40% for each month of age under 65 when benefits begin. For those born after 1939, the age reduction depends on the age at retirement and the social security retirement age. In this case, the monthly reduction factor is that percentage which would cause retirement at age 60 to result in a 28.5 percent reduction.

28. Disabled widow's and widower's eligibility

A widow or widower must be at least age 50 and under age 60, unremarried, and totally and permanently disabled if disability occurs within 7 years of employee's death or within 7 years after widowed mother's or father's status terminated. Age reduction is 28.5%. Benefit may not begin earlier than the first day of the sixth month following the date disability begins or the first day of the twelfth month before the month in which the application is filed.

29. Widowed mother's and father's eligibility

Unremarried former spouse of a deceased employee who is under social security normal retirement age and who at the time of filing an application has in his or her care a minor or disabled child of the deceased employee.

30. Divorced widow(er)'s and remarried widow(er)'s eligibility

The following are eligible for a tier 1 benefit only.

A. Divorced widow(er) - must (i) have been married to employee at least 10 years, (ii) have attained age 60, be between 50 and 59 and disabled or be any age with a child in care, and (iii) be unmarried or remarried after age 60 (after age 50 and disability onset if disabled).

B. Remarried widow(er) - must have remarried after age 60 (after age 50 and disability onset if disabled), or the remarriage must have ended. Widow(er) must have attained age 60, be between 50 and 59 and disabled or be any age with a child in care.

Benefits for divorced aged widow(er)s and remarried aged widow(er)s are reduced for the full number of months under social security normal retirement age.

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31. Child's eligibility

A child of a deceased employee must be under 18 or under 19 and a full-time elementary or secondary school student. Unmarried children who were disabled before age 22 are also eligible, regardless of age.

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32. Parent's eligibility

A parent of a deceased employee who has attained age 60 and received at least one-half of his or her support from the employee will be eligible for an annuity. A parent of an employee who died leaving a widow, widower or child who is or might become eligible in the future will be eligible for a tier 1 benefit only. In certain instances, a remarried parent of a deceased employee will be eligible for a tier 1 benefit.

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33. Work restrictions

Annuity not payable for any month in which survivor engages in railroad employment. Entire benefit subject to social security work restrictions.

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34. Annuity computation for all eligible survivors

<u>Tier 1</u>
Amount payable to survivor under Social Security Act, based on the deceased employee's combined railroad and social security earnings after 12-31-36, less the amount of any social security benefit received. Additional restrictions exist for a widow or widower who also receives an annuity as a railroad employee or who receives a public service pension.

<u>Tier 2</u>
Widow or widower - 50% of employee tier 2 benefit
Parent - 35% of employee tier 2 benefit
Children - 15% of employee tier 2 benefit for each child
The total family tier 2 benefit has a minimum of 35% and a maximum of 80% of the employee's tier 2 benefit.

For aged widow or widower, the total benefit exclusive of any vested dual benefit may not be less than amount received as spouse in month before employee's death.

All percentages are before deductions for work or entitlement to social security benefit or railroad retirement employee annuity.

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35. Vested dual benefit for widow or widower

A widow or widower receiving a vested dual benefit on August 13, 1981 will continue to receive a benefit (adjusted as described in item 12). No vested dual benefits will be awarded after that date.

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36. Insurance lump sum

Payable if employee leaves no survivor eligible for monthly benefits in the month of his death.

Amount

A. If employee had 10 years of service before 1-1-75, the benefit is 10 times the basic amount. The basic amount is 52.4% of the first $75 of average monthly remuneration (AMR), plus 12.8% of the remainder, increased by 1% for each year before 1975 with earnings of $200 or more. The AMR is combined railroad and social security earnings before 1975 divided by the number of months after 1936 or age 22 and up to retirement or death.

B. If employee had less than 10 years of service as of 12-31-74, the amount will be the amount social security would have paid (currently $255). This amount will only be paid to a widow or widower living with the employee at the time of the employee's death.

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37. Cost-of-living increases for survivors

Each tier is subject to same percentage increase as corresponding tier of employee benefit.

FINANCING, INVESTMENTS AND TAXATION OF BENEFITS

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38. Employee and employer payroll taxes

Employees and employers contribute at the prevailing social security rate of pay up to the tier 1 earnings limit. In addition, employers contribute 16.1 percent and employees contribute 4.9 percent of pay up to the tier 2 earnings limit. Contributions to 401(k) deferred compensation plans and the value of employer-paid premiums for group term life insurance coverage in excess of $50,000 are included in railroad earnings for payroll tax purposes.

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39. Supplemental annuity tax

Taxes for the supplemental account are collected on the basis of the $45-$70 benefit scale previously in effect. The tax rate is determined quarterly by the Railroad Retirement Board on a cents-per-work-hour basis and is paid by employers. The excess resulting from the $23-$43 actual benefit scale is transferred to the regular railroad retirement account.

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40. Financial interchange

Railroad retirement system pays to social security system the taxes social security would have collected and receives the additional amount of benefits and administrative expenses social security would have paid if railroad employment had been covered under social security. The net difference (including interest) is transferred in the June after the fiscal year for which the transfer is made.

The Railroad Retirement Board estimates the amount and direction of the financial interchange transfer that would be made for each month if transfers were on a current monthly basis. If this estimate favors the railroad retirement system, Treasury advances the amount with interest to the railroad retirement account, as a loan from the general fund, by the middle of the succeeding month. Within 10 days after receipt of the annual financial interchange for a fiscal year, the RRB must repay the amount, with interest, advanced during the fiscal year.

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41. Investments

Railroad retirement system funds are permitted to be invested in special obligations, U.S. interest-bearing securities, and interest-bearing securities guaranteed by the U.S. or which are lawful investments for trust funds managed by the Treasury. The securities purchased in a month must have fixed maturity dates and interest yields at rates at least as high as the average market yield of all Treasury notes with maturities of over 3 years, but not less than 3%. The Railroad Retirement Board has the authority to make mandatory requests upon the Secretary of the Treasury as to purchase of these obligations. The Railroad Retirement Board determines when and which securities are to be redeemed for the purpose of paying benefits or for reinvestment.

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42. Financing of vested dual benefits

General revenue appropriations finance all vested dual benefit payments since September 1981. Beginning October 1, 1981, each annual appropriation is placed in the Dual Benefits Payments Account. Total benefits paid in any fiscal year (starting with 1982) may not exceed the total available in the account. The account may borrow at the end of a fiscal year the amount that the Railroad Retirement Board estimates will be necessary to pay vested dual benefits for the first month of the next fiscal year.

43. Railroad unemployment repayment tax

The purpose of this additional tax paid by employers is to repay to the railroad retirement account the outstanding loan to the railroad unemployment insurance account. Effective January 1, 1989, the tax rate was fixed at 4 percent of the first $710 (indexed) of each employee's monthly earnings. The monthly earnings limit in 1993 was $810. The Treasury transfers from the general fund to the railroad retirement account the revenue produced by this tax. The outstanding loan was fully repaid with interest on June 29, 1993. No repayment taxes are due for earnings after June 1993.

44. Taxability of benefits

The portion of tier 1 benefits equivalent to social security benefits is taxed under the same rules as are social security benefits. Tier 1 benefits in excess of social security equivalent benefits, tier 2 benefits, vested dual benefits, and supplemental annuities are taxed under the rules by which private pensions are taxed.

Revenues from taxes on social security equivalent benefits are transferred to the social security system through the financial interchange. Revenues from taxes on tier 1 benefits in excess of social security equivalent benefits and tier 2 benefits are transferred to the Railroad Retirement Account. Revenue derived from taxing vested dual benefits is transferred to the Dual Benefits Payments Account.

MISCELLANEOUS PROVISIONS

45. Benefit preservation

Each year the Railroad Retirement Board must report to the President and Congress the results of a five-year projection of anticipated revenues to and payments from the railroad retirement account. If the results show that the funds in the account will be insufficient to pay full benefits at any time during the five-year period, the report must indicate (1) the first fiscal year in which benefits would have to be reduced because of insufficient funds in the absence of any changes, and (2) the amount of adjustments necessary to preserve financial solvency. Within 180 days after publication of this report, representatives of railroad labor and management are obligated to submit proposals designed to preserve the fund's solvency. The Railroad Retirement Board will publish regulations necessary to provide a constant level of benefits at the maximum level possible and to insure that no individual receives less than what he would have had all his earnings been covered under social security. The Railroad Retirement Board's regulations will take effect beginning with the first year in which benefit reductions will be necessary and continue until legislative action supersedes them.

46. Automatic benefit eligibility adjustments

Liberalizations in social security eligibility requirements will automatically be reflected in railroad retirement eligibility requirements, but reductions in social security requirements for categories not entitled to railroad retirement annuities under the 1937 act will not confer railroad retirement eligibility. If the Social Security Act is amended to provide benefits to a class not previously entitled under social security, the new class will also be provided railroad retirement benefits. The amount will be the social security benefit based on the employee's combined railroad and social security earnings.

47. Transfer of credits

Transfer of railroad retirement credits is made to social security if an employee had less than 10 years of railroad service or, in the case of a survivor, if the employee lacked a current connection.

DEFINITIONS

The meanings of terms used in the outline are defined below:

Railroad earnings - earnings derived from covered railroad employment, up to the maximums specified in item 9.

Social security earnings - earnings derived from employment covered under the Social Security Act (excludes railroad earnings), up to the maximums allowed.

Current connection - generally defined as having at least 12 months of railroad service in the 30 months preceding death or retirement. An employee whose last 12 months of railroad service occurred prior to the 30 months before retirement or death may maintain a current connection if the employee did not perform any regular employment between the end of the 30 month period containing the last 12 months of railroad service and the month of retirement or death. For purposes of the supplemental annuity or survivors' benefits, an employee who was terminated involuntarily and without fault on or after October 1, 1975, after 25 years of service and did not thereafter decline an offer of employment in the same class or craft in the railroad industry is deemed to have a current connection.

Fully insured - insured for retirement at age 62 under social security; does not necessarily imply an insured status for disability benefits or for survivor benefits for death before age 62.

Social security benefit - when used in describing the computation of the vested dual benefit, the term "social security benefit" means a primary insurance amount computed by using the social security formula in effect in 1974 and the specified earnings; it does not imply an actual benefit.

Social security retirement age - the age at which an individual may receive an unreduced benefit at retirement under the Social Security Act, as follows:

Year of attainment of early retirement age (62 for employees and spouses, 60 for widows and widowers)	Retirement age (age for unreduced benefit)
1999 or earlier	65 years, 0 months
2000	65 years, 2 months
2001	65 years, 4 months
2002	65 years, 6 months
2003	65 years, 8 months
2004	65 years, 10 months
2005-2016	66 years, 0 months
2017	66 years, 2 months
2018	66 years, 4 months
2019	66 years, 6 months
2020	66 years, 8 months
2021	66 years, 10 months
2022 or later	67 years, 0 months